

Policy and Management Issues Framework Statewide Portal Project

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Internet Access

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EXECUTIVE SUMMARY

The introduction of the commercial Internet in 1994 has changed the way people interact. Over the past ten years, more and more people have turned to the World Wide Web to conduct business with merchants, financial institutions, and government. The Pew Internet and American Life Project named Internet communications and transactions the “new normal.”¹ California is not currently prepared for this transition. While the state web portal was award-winning when it debuted in 2001, it has not been maintained and further developed. The 2005 Brown University assessment of state and federal e-government efforts ranked California 47th of the 50 states.

This decline is due in part to the lack of a clearly defined governance process, lack of clear ownership, and lack of a steady, reliable funding source. Departments and agencies have been responsible for the development and maintenance of e-government services with little leadership or oversight at a statewide level. While agencies have made progress in eGovernment, the central state portal does not adequately reflect the progress. Fragmentation between departments makes it difficult for citizens and businesses to find information and services. A business wanting to establish in California must visit multiple department websites, entering different business identifiers, and conducting multiple transactions. This is not only inconvenient for our business customers, but also inefficient for California government.

California is in the midst of a technology transformation. We are changing how we view information technology, its role in state government, and our strategy for adopting technology tools and communication channels to better meet the needs of the people we serve. In 2004, the State Chief Information Officer, Clark Kelso, issued the California State Information Technology Strategic Plan. The plan outlines an ambitious agenda that should result in a California state government that is more accessible to citizens and business while improving efficiency, cost-effectiveness, and security of government programs. A key part of this plan is the redesign of the state portal and the state’s eGovernment policies, procedures, and approach. This will be accomplished in part through the definition and implementation of standards and guidelines promoting inter-agency cooperation and collaboration. The state website, or web portal, will serve as the gateway to the State of California and its underlying agencies and departments and to the digital services offered by state agencies and departments. To succeed in this effort, California must define a governance process, identify a clear owner of the state portal, and establish standards, guidelines, policies, and procedures to ensure that the state web pages meet our customer’s expectations and needs, are secure, function correctly, and are accessible by all Californians.

There are several challenges to the success of eGovernment in California. California is probably the most diverse state in the union as well as the most diverse state government in the U.S. Identifying our user audiences will be a primary challenge as will establishing a culture where the numerous agencies, departments, boards, and commissions can work together to serve those audiences. Gaining public trust and confidence that the state will use digital information systems appropriately and accurately will be challenging. We must ensure that the portal is managed wisely and funded into

the future. The state web presence we create needs to be flexible enough to adapt to political shifts, changes in citizen and business expectations, and technology innovations. This will be an ongoing, iterative process. We can establish the initial infrastructure and define standards and guidelines, but realizing the vision will be the work of many years and will shift over time.

The purpose of this document is to identify the primary policy and management issues that California will need to address in designing and deploying a state portal or website that is focused on customer needs, secure from unauthorized access, accessible and usable by California's diverse citizenry and business communities, and flexible to accommodate changes in political or administrative environment, changing customer expectations, and new technologies.

The document identifies policy and management issues associated with the creation of an integrated, enterprise state web presence. It is not intended to provide a comprehensive technological framework for the design, development, and deployment of a portal. The document is focused on identifying policy and management issues. Should the framework document be accepted to proceed, a business plan should be developed to provide a detailed plan of action.

The issues are grouped into chapters addressing vision, public trust, customer-focus, governance, and funding. Each area provides a definition of the topic, an assessment of California's current portal in relation to the topic, a high-level vision for the new portal, and possible ways to achieve the vision including selected models and case studies from other states or countries. A framework page at the end of each chapter provides general direction.

Building a Common Vision

The state website should be designed to meet the needs of our citizens and business customers not just for the convenience of state agencies. Public input should be solicited to identify the needs of our users and ensure that they are met. Governance and funding structures should be deployed with flexibility to accommodate new technologies and changing customer expectations. The state website should provide a secure and more efficient channel to government information and services. The website should provide seamless access for citizens and business to contact all branches of state government as well as related local or federal government entities.

Putting the Customer First

The state needs to recognize that the Internet has changed the way citizens and businesses interact with government, and to identify our diverse customers with their needs and expectations. To accomplish this, we will need to provide leadership in eGovernment and provide models, policies, procedures, standards, and guidelines to ensure that the state website and the content posted on that site meets the needs of our citizen and business communities.

Building Public Trust

The state needs to establish and enforce statewide policies, procedures, standards, and guidelines to protect information security and privacy. Citizen-facing policies should be written in plain language and communicated to the public, although the supporting government standards and policies may be written in specialized language for attorneys and regulators. California's efforts to create and maintain a secure web presence should be publicized. Over time, a statewide identity management system should be developed to allow single sign-on for website users.

Governance

California needs to establish a governance system that encourages cooperation and is inclusive of all state government entities, government partners at the federal and local level, and non-profit and private sector partners. The governance system should support the goals and structure of the state web presence by providing agencies general direction through policies, standards, and guidelines. Strong executive sponsorship will be needed; however, individual agencies and departments need to retain responsibility for most of the content.

Funding

The state portal should be recognized as a basic state business function with ongoing operations and enterprise development funded through a line-item appropriation. One-time funding will need to be identified to support the initial infrastructure development. The state needs to pursue a combination of funding sources to provide flexibility and avoid overuse of a single source. Service centers based on communities of interest should be funded either through a line-item appropriation of the state budget or from the departmental budgets of the supporting agencies. Policies, standards, and guidelines will need to be reviewed and updated or developed if not currently in existence to support the federated development structure and inter-agency collaborative services.

CHAPTER 1 - BUSINESS CASE

Evolution of the Internet in American Life

The Internet entered American life in 1994 when Netscape's Mosaic browser was made available for free download. Today, the Internet has become the "new normal,"² with more than 60% of Americans online, including over 80% of American teenagers.³

An ever-growing population uses the Internet to purchase consumer items, pay bills, invest money, order prescription drugs, rent movies, and find information. Online giants such as Amazon and eBay have been joined by electronic storefronts of traditional companies, banking institutions, news providers, libraries, entertainment companies, and others. Even some grocery stores and grocery delivery services offer eCarts, which allow you to select your groceries over the Internet and have them delivered to your home or office. It is now possible to conduct many of your daily errands without leaving your house. During the past decade, the Internet has become as much a part of American consumer and business life as the telephone and brick-and-mortar storefronts. Internet users now view the World Wide Web as a tool with real, immediate, and practical value rather than as a cool new technology; "increasingly it is seen as a utility rather than a novelty."⁴

Key Points

- The Internet has become "the new normal" in American life.
- Nearly 40% of Americans look for government information online before pursuing other channels.

Communication with government is part of this "new normal." In a 2002 study of American Internet usage, the Pew Institute's Internet and American Life Project found that nearly 40% of Americans look for government information online before pursuing other channels.⁵ In 2003, Pew found that while most survey respondents contact the government by telephone (42%), government websites were second at 29%⁶ and 65% of all Americans expect government information to be available on the Internet.⁷

State, federal, and local government entities are responding by expanding the information and services available through their websites. On the signing of the Electronic Government Act in 2002, a U.S. Senator exclaimed "the president's signing of [the Electronic Government Act] brings the federal government fully into the electronic age, giving taxpayers the same round-the-clock access to government that they have come to expect from the private sector."⁸

We are in a time of rapid change. Advances in technology have made possible a "virtual government" that is available on-demand at any time or location. Californians expect to be able to complete their business with the government efficiently, effectively, and on their timetable. Government needs to provide automated service channels (e.g., Internet, interactive telephone systems) that are available to citizens anytime, anywhere. In addition to better service, Californians expect government to maintain accurate records that are available on demand while using less paper; they expect all constituents to be able to access, understand, and use government information and services regardless of ability or access; and they expect personal information provided to the government to be

guarded carefully and used appropriately.⁹ The Center for Digital Government predicts that “the next five years will be more important to the effort to modernize government than the preceding 20 years.”¹⁰

Technology is embedded in our way of life and in our future. In 2003, the National Intelligence Council working with Rand’s National Defense Research Institute concluded that “IT is likely to change the 21st-century world just as much as the steam engine, railroad, and telegraph changed the 19th-century world, and just as much as electricity, the internal combustion engine, automobile and airplane, and the telephone, radio, and television changed the 20th-century world.”¹¹

State of the Web in California State Government

The state of California is larger and more complex than any other state in the union. California has the world’s sixth largest economy with highly diverse industries; New York, the next largest state economy, is 60% of California’s economy.¹² California state government reflects this with an annual budget of \$113 billion, 79 departments, and over 300 boards and commissions providing thousands of major programs and services to 37 million people within the state and others outside its borders. California introduced its first state website in 1995, upgrading to the current MyCA portal in 2001.

The original state website published in 1995 was identified as the best state website by the New York Times in 1995 for the extent of the content offered and the interactive, up to date information or “live data” available to users on traffic conditions, water flow and flood warnings, and snow pack depth among others. Much of this was accomplished through partnerships with private industry.¹³

When the current MyCA portal debuted in 2001, it was award-winning, cutting edge technology. California won first place for state government in the Center for Digital Government’s Best of the Web contest.¹⁴ The award was judged on the websites’ innovation and use of technology, efficiency and time saved both internally to government and by the public, economy, functionality, ease of use, and improved citizen access to government.

In 2000, PK Agarwal defined five levels of government portals:¹⁵

1. Information and services presented in a functional rather than an organizational format.
2. Most government transactions are offered online.

Key Points

- California’s first state website debuting in 1995 and the current MyCA portal debuting in 2001 won acclaim at time of introduction.
- Little has been done to maintain the portal, keeping information current and utilizing new technologies leading to California’s rank of 47th of the 50 states in a recent study by Brown University.

3. Single sign-on allows users to move from one service to another without re-authenticating.
4. Information needed to complete a transaction is drawn from government sources rather than entered by the user.
5. Aggregated and customized information is made available to users in subject areas of their choice.

California has partially achieved the first level through the communities of interest presented on the MyCA homepage. However, much of the information and services are organized along program and department silos rather than customer-friendly topical areas.

As a result of the disintegration of the Executive Branch's information technology program in the spring of 2002, a significant cut in funding to support the state portal, and continuing budget difficulties, little has been done in the past four years to update the portal, maintain content, and keep current with technology and industry improvements. Most funding for maintenance and improvements came from siphoning money from existing departmental funds – an unstable and unreliable source of funding that drew understandable hostility from departments. The predictable result is that California has fallen behind other states eGovernment efforts as evidenced by a recent Brown University study in which California ranked 47th of the 50 states.¹⁶

The MyCA website is a centralized state portal with the central portal servers and software hosted by the Department of Technology Services. Currently, the state portal consists primarily of centralized search functionality, common look and feel, and common navigation. Departments are responsible for their own content and services. Very few departments use the central portal software and servers; however, costs are recovered by billing *all* California agencies and departments. The system is costly to operate and maintain with little direct benefit realized by most agencies and departments.

There are a number of governance and technical problems associated with the state website. Internet information and services have become a basic function of state government; yet the state's Internet presence is not financed through a stable, reliable appropriation from the state budget as other basic functions are. Most executive departments utilize the state template for a uniform look and feel and standard navigation; however, many constitutional offices and other branches of state government do not follow the template. There are links to related information on most state sites but only a few topical collaborative sites. The links between departments must be closely monitored; if a department moves or renames a page all links are broken. There is no common communication standard to notify linked departments of such changes. The search functionality is dependent on departments' use of metadata, which is inconsistently applied and often missing. The software and its dependence on metadata are outdated and do not function well. It can be difficult to find information and services unless the user is familiar with California's organizational structure and programs.

The State CIO established a State Portal Steering Committee to guide planning for a reinvestment in the state's Internet presence and portal pursuant to the California State Information Technology Strategic Plan, adopted in November 2004. The Steering Committee meets quarterly and is advised by the CIO-level State Portal Review Board, which meets monthly. A decision was reached at the October 14, 2005 State Portal Steering Committee meeting to transition away from the current system as soon as practical.¹⁷ The handful of departments hosted on the existing portal servers will need to migrate toward a new hosting environment before the system is shut down. A solution will need to be found to continue providing overall search functionality. There should be no interruption of service to our customers.

How a Web Service Center Will Benefit California

The state website provides the interface between the enterprise and government programs, citizens, and businesses. An integrated state website focused on user needs rather than government organization could provide a central gateway to information and services for both government and the public.

Customer Expectations: Over one third of Internet users (36%) surveyed by the Pew Internet & American Life Project at the end of 2002 stated that the Internet has improved their dealings with government.¹⁸ Furthermore, Internet users are more likely to contact government because the media encourages it.¹⁹ The state website offers an opportunity to identify what the public and businesses in California want from their government and to provide information and services accordingly.

The portal offers government an opportunity to provide a new, improved way of conducting business with Californians. Web portals can put government services in the hands of citizens while improving the efficiency of government bureaucracies. The Province of New Brunswick developed Service New Brunswick to improve the delivery of government services to the public. Through their integrated "single window" approach, every transaction uses a web-based interface regardless of the channel used (Internet, telephone, brick-and-mortar office).²⁰ In 2001, Gartner, Inc. stated "Under any metric we choose, SNB [Service New Brunswick] is successful. It has saved money, increased services, and raised satisfaction."²¹ During New Brunswick's 2004-2005 fiscal year, 37.6% of government transactions were conducted online.²²

Key Points

- Over 1/3 of respondents to a Pew Internet & American Life survey reported that the Internet has improved their dealings with government.
- The federal government defined the purpose of eGovernment as improved delivery of federal government services and information to the public and to decision-makers.

The California Performance Review (CPR) conducted in 2004 found that the State of California has over 1,400 toll-free telephone numbers and more than 20 call centers for customers to contact state agencies. There are four state operators available during weekday business hours to assist the public and state agencies to connect with departments for information. CPR found that "The state has done little to assist the public in contacting state agencies, or to help the public identify which state agencies

provide the services they need.”²³ In 2002, Hong Kong consolidated over 2,900 toll-free telephone numbers into a single consolidated call center²⁴. Citizens are able to contact any of the thirteen participating government agencies by dialing a single phone number. In 2004, the call center answered 1,737,409 calls with 92% of questions answered during the initial call.²⁵ The California Performance Review concluded that “the goal of providing seamless Internet access to all state and local government agencies in California remains unfulfilled” with outdated information and obsolete links and recommended that the portal be updated and expanded to meet its original vision as a single gateway to state and local government information and services.²⁶

The federal government defined the purpose of eGovernment in the eGovernment Act of 2002 as improved delivery of federal government services and information to the public and to decision makers. To accomplish this, they found that they must replace agency-centric systems and processes with integrated, citizen-centric applications through common language, lines of business, and cross-agency portals.²⁷ A recent survey by the United Kingdom’s DirectGov portal found that 51% of British Internet users regularly visit six sites or less and that 75% of respondents reported they would use a government “supersite” that covered all aspects of government.²⁸

The state of Texas found in their efforts to create a state government web portal that citizen expectations are driven by their experiences in the private sector. Citizens want easy access, product choices, payment choices, ease of use, call center support with a live operator available at any time in their language, and accessibility to all users²⁹. The United Kingdom found that “people want government which meets their needs, which is available when they need it, and which delivers results for them. People want effective government, both where it responds directly to their needs...and where it acts for society as a whole...People are becoming more demanding, whether as consumers of goods and services in the market place, as citizens or as businesses affected by the policies and services which government provides. To meet these demands, government must be willing constantly to re-evaluate what it is doing so as to produce policies that really deal with problems; that are forward-looking and shaped by the evidence rather than a response to short-term pressures; that tackle causes not symptoms; that are measured by results rather than activity; that are flexible and innovative rather than closed and bureaucratic; and that promote compliance rather than avoidance or fraud. To meet people's rising expectations, policy making must also be a process of continuous learning and improvement.”³⁰

Economy and State Budget: California has faced budget shortfalls for several years; this is likely to continue into the near future. The benefits of collaboration and information sharing range from minimization of redundant data entry and storage, improved data integrity and currency, and improved decision-making to better communication between government organizations.³¹ The National Association of State CIO's (NASCIO) expects that state government can realize significant cost savings through these benefits.³² The state web portal will be an integral part of collaboration and information sharing efforts.

A web service center can enable government to develop and improve eGovernment services collaboratively. By developing an application, then adapting it for related functions rather than developing applications for each function, new services can be made available to the public for a fraction of the current cost. For example, an online licensing program designed for accountant licenses could be adapted by other programs to provide continuing education provider licenses or dental licenses in a shorter time period. This should require fewer monetary and human resources than designing each service separately; further research will be needed both to identify appropriate applications and to determine the level of savings, if any. Reducing redundancy in eGovernment development should save both time and money. Savings could be realized through inter-agency cooperation and collaboration, shared experience and expertise, and development of shared services along common lines of business.

The integrated state portal can serve as an interface between the various service channels and the enterprise enabling improved communication between agencies working on related or similar projects. The benefits of collaboration and information sharing range from minimization of redundant data entry and storage, improved data integrity and currency, and improved decision-making to better communication between government organizations.³³

Key Points

- An integrated state portal will enable California departments to share the costs to develop and design new web services.
- Reduced redundancy in development of eGovernment service will save the state both time and money.
- An integrated state portal can improve communication and collaboration between agencies working on related or similar projects.

Public Confidence in Government: The state website can represent more than technology implementation; it will trigger a culture change that will reverberate throughout all levels of government and California's residents and businesses. A recent survey by the Public Policy Institute of California (PPIC) found that 77% of Californians have some or very little confidence in their state government's ability to plan for the future and most have very little faith in the competence and good faith of elected officials.³⁴ Through topical information and services, transparent and open processes, and accurate information, the state portal can help raise people's confidence in their government. The state website can make government more transparent to citizens through information dissemination, and thereby increase citizen trust in their government.

To gain and preserve public trust, users must believe that digital government exists for their benefit, not to empower government. California residents and businesses must believe that conducting business with California government electronically will provide a pleasant, efficient, hassle-free experience. Government employees must accept the state website as a new, improved way of conducting business. Users must trust in the competence of automated systems established and maintained by government. They must be aware of and have faith in the effectiveness of California's privacy and security efforts. People must have confidence that automated digital transactions will be completed accurately and efficiently. The system must send information to the correct entities (and only to the correct entities), the automated transaction must work with a high level of accuracy and availability, and the automated system must interface with backend systems.

Privacy and Security: A 2004 presentation for the Chief Information Officers Council of the American Council for Technology identified privacy and security concerns as the top two reasons people do not use e-government services.³⁵ Digital collection, storage, and sharing of government information and services can provide a more accurate and more efficient view of citizen and business actions within state government than the current person-based process. Traditionally, this has required paper authorizations and people to authenticate the requestor, confirm their access to the information, and provide the requested information. An enterprise portal with strong identity management, authorization, privacy, and information security components can perform the same work faster and with a clearer audit trail than the current paper-based system. The same technology tools that enable government to track criminal activity can be used by government or citizens to track government activities, improving transparency of government and auditing of

Key Points

- An integrated state portal can trigger a culture change through all levels of government and California's residents and businesses.
- The state portal can help raise confidence in government by making government more transparent through information dissemination.
- Privacy and security concerns are the top two reasons people do not use eGovernment services.

Key Points

- The security of California can be improved through information sharing between government agencies via the secure channel provided by an integrated state portal.

government work.³⁶ An enterprise level identity management system will ensure that each person or business using the state's website will have a single identity, making it easier for government to audit activities. While this raises significant privacy issues, it also partially resolves them. With appropriate policies and procedures, government can ensure the security and proper use of the information it collects. "The mere availability of information to government agencies does not mean America is a surveillance state."³⁷

Privacy policies will need to be developed and enforced to ensure that this personal information is not used inappropriately; however, the ability of law enforcement programs to access state information quickly and at any time can improve the security of our state and its citizens. With appropriate privacy and security policies developed and enforced, the Internet can become a trusted government channel for information. A trusted government web portal could be invaluable as an alerting platform during a natural disaster. The government website could offer information to citizens visiting online or phoning an automated toll-free number. Government agencies at all levels, non-profit agencies, and citizens would have access to information on demand. Privacy and public trust will be addressed in greater detail in Chapter 5 – Building Public Trust.

Working Together in California - Why the Time is Now

To meet continually rising citizen demands for service and federal demands for accountability, government agencies must work together.³⁸ Citizens expect government services to deliver information and services as efficiently as the private sector.³⁹ The National Association of State CIO's (NASCIO) stated, "The public—which is becoming acutely aware of the power of technology and the obstacles to government information sharing— will not tolerate excuses of politics, personalities and battles over turf for failing to share needed public safety information."⁴⁰ The federal government is also demanding cooperation and collaboration between government agencies through information sharing. Legislative mandates and executive directives necessitate electronic information sharing in a timely, efficient, and secure manner.⁴¹ "The capability to share information is critical in all government lines of business in government."⁴²

Collaborative government within a defined enterprise offers a number of benefits to both the public and to government itself. These benefits include improved efficiency, cost-effectiveness, improved communication, improved decision-making, reduced redundancy, and improved data quality. Analyzing business processes and information at an enterprise level rather than focusing on a single departmental operation through shared information and common processes, provides government a clearer view of the performance of the

Key Points

- Customer expectations and federal mandates make critical the ability to share information between government agencies.
- Benefits of collaborative government include improved efficiency, cost-effectiveness, improved communication, improved decision-making, reduced redundancy, and improved data quality.
- Enterprise architecture provides the structure and the standards that support information sharing and collaboration between government agencies and departments.

state, the performance of each agency, and how each department affects the performance of the state as an enterprise.⁴³ Technology exists today that can allow the government to collect information from a citizen or business once, then distribute that information to all government entities that need it. This not only reduces duplicative information stored on different servers and/or different platforms, but improves the quality of government data and helps prevent multiple, possibly inconsistent data or identities within state government programs. This results in improved decision-making capability for state policy makers, as the information supporting the policy is consistent, reliable, thorough, and offers a global perspective across departmental program lines that is needed to understand the importance and complexities of inter-agency relationships within the state.⁴⁴

Enterprise architecture provides the structure and the standards that will support information sharing and collaboration between government agencies and departments.⁴⁵ NASCIO found that “The lack of standards for exchanging information between computer systems was at the heart of the reason “stovepipe” systems continued to proliferate.”⁴⁶ It is the responsibility of the state to establish policies and practices that will ensure information sharing occurs in a safe, secure, controlled, and trusted environment. Individual agencies are then responsible for defining the information they have and identifying what they are willing and able to share with other agencies.⁴⁷

Today, California is responding to the challenge of establishing information sharing and inter-agency collaboration in the culture and practices of California State Government. The State Chief Information Officer (CIO) has published a comprehensive State IT Strategic Plan with the Governor’s approval that provides a blueprint for the transformation. Key to the plan is the development and implementation of a statewide enterprise architecture that will enable and guide independent agencies and departments to standardize their information technology infrastructures and consolidate the state’s data and services. Focusing on development of technology standards and shared services, the enterprise architecture and its underlying service-oriented architecture can provide the standards and practices to support information sharing and inter-agency collaboration in California government.

The state portal will become the interface between the enterprise and California’s citizenry, businesses, and government partners. The enterprise architecture will determine how departments can use technical solutions and data services solutions they currently have in place to communicate with other departments and customers via the portal, creating a gateway between department silos and customers. The enterprise architecture defines how the gateway will work and what components will be included. It will provide the technical infrastructure, direction, and standards to support a sustainable, multi-channel website by creating an environment supportive of cooperative and collaborative efforts, shared services, and shared information. Through consolidation, standardization, and shared services enabled by the enterprise architecture, the state of California can provide improved eGovernment without unreasonable resource expenditures.

CHAPTER 2 - BUILDING A COMMON VISION

The California State Information Technology Strategic Plan issued in November 2004 proposes sweeping changes to our business processes to create an enterprise information infrastructure that will enable state agencies and departments to share information and information services where appropriate. The strategic goals outlined include:

- Making government services more accessible to citizens and state clients,
- Implementing common business applications and systems to improve efficiency and cost-effectiveness,
- Ensuring state technology systems are secure and privacy is protected,
- Reducing costs and improving the security, reliability, and performance of the state's IT infrastructure, and
- Developing and rebuilding California's technology workforce, and establishing a technology governance structure.⁴⁸

This will result in a more efficient and effective state government with enhanced data integrity and security. The state website can serve as a gateway to the new infrastructure, providing citizens, business, and government with automated, on-demand, integrated information and services.

We envision over time a virtual gateway to government where citizens and businesses are able to conduct their government business in an efficient, effective, pleasing and secure virtual environment. Our users should see an intuitive, informative entry designed specifically for them, not government organization or convenience. Government, especially in California, is so large and diverse that specialization and division of responsibilities are necessary to effectively manage resources and workload. These divisions should be invisible to our customers. To achieve that, California governments will have to work together to understand those needs and to create a user-centered state website and cross-agency web centers focused on specific topics and audience groups that bring together the appropriate information, services and applications to help.

Recognizing Roles and Reality

Beverly Godwin, Director of FirstGov – the award-winning U.S. portal, commented that the term portal is “very much in use today in the online world, but the definition depends on who's using it. ... I am defining government portals as one-stop access to:

- All government information and services, or
- Information and services on one topic government-wide.”⁴⁹

The new state website should serve as the public's gateway to all information, services, applications and transactions that California State government provides online. In

developing that gateway, we should recognize that the vast majority of the content the public finds – whether information, services, applications or transactions – have been and are being developed by the diverse government entities that make up state and local government within California. While we are creating a central gateway into the rich online resources, agencies working individually and cooperatively will continue to be the primary developers of the content for which the state website provides entry.

Agency leadership in

- program development,
- information technologies and
- funding success

is critical to quality content and services to be delivered.

We should also recognize that many, if not most, users will find State information, services and applications they want through non-state search engines, portals and web sites. A 2004 study of how American's interact with government found that 37% of the respondents who used the Internet to contact government located the website through a generic search engine, 19% heard about the site from family or friends, 17% had used the site before, 14% found the site address on a government publication, and 8% used a general government information site such as FirstGov or AOL's Government Guide.⁵⁰ The generic search engines, such as Google, Yahoo and MSN, are and will likely remain the first choice of users, even when the topic is California government. Others will come through the FirstGov search engine that includes state governments and still others through California county and city websites. Developing the state website, collaborative cross-agency web centers and individual agency websites should seek to maximize access through alternative gateways.

Key Points

- The state website should serve as the public's gateway to all information, services, applications and transactions that California State government provides online.
- Agencies working individually and cooperatively will continue to be the primary developers of the content for which the state website provides entry.
- Many, if not most, users will find State information, services and applications they want through non-state search engines, portals and web sites.

The State Portal Review Board recommended the following vision points to ensure common understanding of California's web presence.*

- Agencies working individually and cooperatively will continue to be the primary developers of content.

* All State Portal Review Board recommendations were determined through survey results that were provided to the State Portal Steering Committee with no comment received from that body. Recommendations are based on survey questions with no more than one dissenting vote of the seventeen returned surveys.

- Agency leadership in program development, information technologies and funding success is critical to quality content and services.
- Content development should recognize that many users will access State information, services and applications they want through non-State search engines, portals and web sites[†].

Customer-Focus

Government exists to serve the people, yet government websites are frequently designed to facilitate government programs rather than customer needs. The state website should be organized so that customers are able to find the information and services they need in a simple and intuitive way so they may conduct their business in a secure, efficient manner. This lesson is one that other states and other governments are learning as well. “Federal agencies are discovering that a good Web site should be constructed to satisfy users, not designers. The latest update of FirstGov, the federal government’s main portal, reflects that philosophy, making usability the organizing principle, according to officials in the General Services Administration, which manages the site.”⁵¹

We need to actively listen to the people we serve – through user focus groups, emails, surveys, constituent requests, advocacy groups and the experience of our own frontline staff. We also need to look at how we bring together the content from the users’ perspective, identifying the best practices that will allow us to define and promote good web content management, interoperability standards and cross-agency cooperation and collaboration.

The state website should be one means of access for government services, complementing the existing channels such as brick-and-mortar offices, telephone services, or mail services. Not all people embrace e-Government and those that do may not choose electronic methods for all transactions. State eGovernment services should be integrated into the business architecture so transactions utilize the same basic data through any channel. As noted in Chapter 1, New Brunswick developed an integrated “single window” approach where every transaction uses a web-based interface regardless of the channel used (Internet, telephone, brick-and-mortar office).⁵² California may want to consider Service New Brunswick as a model.

Key Points

- The state website should be designed to meet the needs of the people and businesses of California, not the convenience or organizational structure of state government.
- The state website should establish a model for including users in the planning, design, implementation and testing of the California state website and cross-agency web centers.
- The state website will complement, not replace, existing service channels.

[†] Survey results returned 15 assenting votes and 2 dissenting votes. The State Portal Review Board voted to include the recommendation without changes on March 10, 2006.

The State Portal Review Board recommended the following vision points to ensure common understanding of California's web presence.

- The state website should be designed to meet the needs of the people and businesses of California, not the convenience or organizational structure of state government.
- The state website should establish a model for including users in the planning, design, implementation and testing of the California state website and cross-agency web centers.
- The state website will be designed in the context of a multi-channel delivery.

Government Without Boundaries – Cooperation & Collaboration

The Internet now provides the technical ability for separate government entities to share information and services in a collaborative environment to present a single, unified entry into California state government. People should not have to know which agency provides a service or have to visit multiple sites to find services they need because different agencies or levels of government own separate pieces. Through the portal, California can develop a non-exclusive channel to backend data and systems across agencies and departments. An enterprise-wide state website should provide seamless access to services, with internal systems, not customers, responsible for communicating with the different agencies involved.

Key Points

- The Internet provides the technical ability for government departments to share information and services.
- Users should not need to understand the government's organizational structure to find the information and services they need.

To provide government without boundaries, the development of a state website even in the beginning should be all-inclusive at a state level, representing the executive branch including all constitutional officers, the legislative branch, and the judicial branch. For the state website to be an effective gateway to the full range of government services in California, it also needs to address the relationship with counties, cities, special districts and other local governments as well as selected federal services. As stakeholders and partners with the state in delivering services, local governments need to be actively included in the design, implementation and operation of the state website. Similarly, the state should encourage federal participation.

We must promote and support policies, procedures and partnerships by state agencies that support cross-agency cooperation and collaboration, both within the state and with other government entities.

The State Portal Review Board recommended the following vision points to ensure common understanding of California's web presence.

- The state website should provide entry to and from California city, county and other local government services.
- The state website should include entry to and from appropriate federal government services.
- Representatives from other levels of government will be included in efforts to design the state website and cross-agency portals focused on topics and audience groups.
- Policies, standards and tools should be developed to support and encourage communication, cooperation and collaboration.
- The state website should be inclusive of all California government[‡].

Readable, Accessible, Understandable

State government services must be available to all members of California's large and diverse population. Critical information and services are needed by Californians regardless of age, language, ethnicity, ability, education level, or familiarity with the Internet. Websites, if properly designed, provide an effective means for people with disabilities or language barriers to interact with government. The state website will comply with federal and state laws including, but not limited to, Section 508 of the U.S. Rehabilitation Act. In addition, state government staff needs to develop knowledge, skills and abilities involved in usability design and testing.

Key Points

- Portal information and services should be made available - to the greatest degree practical - to all Californians regardless of age, language, ethnicity, ability, education level, or familiarity with the Internet.

The State Portal Review Board recommended the following vision points to ensure common understanding of California's web presence.

- The state website and cross-agency web centers will be readable to all users, with content written in plain language to be understood by the general public.
- The state website and cross-agency web centers will be accessible, meeting at a minimum the criteria of Section 508 of the U.S. Rehabilitation Act while increasing equality of services for persons with disabilities.
- The state should establish models for usability and its testing for both the state website and agency websites.

[‡] Survey results returned 10 assenting votes, 4 dissenting votes, and 3 requests for further information. The State Portal Review Board voted to include the recommendation with language modifications on March 10, 2006.

- The state should develop guidelines on information and services that need to be provided in non-English versions.

Accepted by People

To be effective, the state website must be viewed by the people and businesses of California as a viable and trusted way of interacting with State government. Users should find the state website to be a more convenient, faster, and less expensive way of interacting with the government than traditional channels of brick-and-mortar offices, telephones, and mail. Amazon and Google are successful because they are easy to use and reliable.

Key Points

- California residents and businesses must view the state website as a viable and trusted means of interacting with state government.

Public trust has to be earned and maintained. The capabilities will be there for more transparent and efficient State government that shares information internally, enables electronic access to records and services, and has the technical ability to connect individual and corporate data. State website users will want to know that policies, procedures, and accountability are in place to protect their privacy and the security of their information. Public information must be used appropriately; policies can establish limits and barriers to ensure this will occur.

The State Portal Review Board recommended the following vision points to ensure common understanding of California's web presence.

- Comprehensive privacy and security policies will be in place specific to the state website and digital government in California.
- The state's privacy and security policies will be readily available and clearly communicated to the public.

Sustainable and Evolving

Planning for the state website must address governance, sustainability, and enhancement. Governance structures must be created to ensure the state website stays true to its charge and its users. Departments remain responsible for developing, funding and managing web content and services within their programs; however, some enterprise-level information and shared services will need to be funded and governed at the state level. Sustainability will be dependant upon securing funding to support ongoing development and maintenance of the core state web services.

Key Points

- Governance structures and funding must be developed to ensure that the portal remains current and continues to meet customer needs.
- Governance structures must be flexible to accommodate new technologies and customer expectations.

The state website must be developed so that it can remain responsive to the impact of technologies upon improved services and changes in user behaviors. Technologies are changing rapidly, with potential applications for State government such as XML, RSS feeds, wireless services, streaming audio/video, and iPod casts. Delaware is utilizing VXML to allow touchtone telephones to serve as an interface with web content.⁵³

Mobile and ultra-mobile devices are gaining popularity and becoming more powerful; mobile and wireless devices have become the primary communication channel for hundreds of millions of users worldwide.⁵⁴ The desktop is no longer the only end-user device. One estimate of adoption of mobile technology forecasts 2.7 billion subscribers by 2010.⁵⁵ California will need to address the limitations of mobile devices by focusing on usability. Some states such as Idaho, Michigan, and Virginia have developed mobile state web portals that account for the smaller screens of mobile devices. These portals offer a condensed, focused version of key government information and services. This can be accomplished through the use of the inverted paragraph, placing important information at the top of the page. In the commercial sector, users of nomadic devices are now able to conduct fee-based transactions using their nomadic devices. Micropayments, or transactions totaling less than \$12, are emerging as the leader in mobile payment transactions with the mobile device replacing cash for small purchases.⁵⁶ The European Union has been the leader in micropayments, with the EU Directive on eMoney passed in 2000.⁵⁷ The portal foundation should be designed for flexibility with multiple channels and multiple devices. Planning should include future technology such as mobile government. Standards and guidelines will need to be developed to ensure key information and services can be read within the small viewing area of these devices without requiring scrolling as well as ensuring that the state's web pages are accessible on the multiple platforms supporting mobile devices.⁵⁸

Technology will continue to change at a rapid pace and citizens and businesses will continue to hold government accountable for meeting their rising expectations.⁵⁹ The state website infrastructure, guidelines, and standards should be flexible enough to embrace new technologies that will enable the state to provide high quality, low cost and efficient services.

The State Portal Review Board recommended the following vision points to ensure common understanding of California's web presence.

- Planning for the state website must address governance, sustainability, and enhancement.
- The state should pursue multiple funding streams to support the state website, cross-agency web centers on topics and for audience groups, and program specific agency web sites.
- Ongoing operations for the state website need to have their own assured sources of funding based upon the value of the Internet channel to the state.

- Development of the state website infrastructure, guidelines, and standards should be flexible enough to include emerging technologies.

BUILDING THE VISION FRAMEWORK

- Design the state website to serve as the public's gateway to government information and services.
 - Develop the portal as a non-exclusive, secure, and efficient channel to state government.
 - Organize so customers can find information quickly and intuitively.
 - Provide a rallying point for citizens to meet and participate in government decision-making.
 - Develop governance structures and funding to ensure that the portal remains current and continues to meet customer needs.
 - Ensure that governance and funding structures are flexible to accommodate new technologies, new devices, and customer expectations.
- Create government without boundaries.
 - Provide seamless access to services with internal systems, not citizens, responsible for communicating with affected agencies.
 - Include all branches of state government in the website.
 - Include government partners in website information and services where appropriate (e.g., federal, city, county governments).
 - Promote and support cross-agency cooperation and collaboration within the state and with government partners.
- Design the state website to meet the needs of the people and businesses of California, not the convenience or organizational structure of state government.
 - Actively listen to the people we serve.
 - Establish a model for including users in the ongoing development of the California state website and web service centers.
 - Identify and adopt best practices for web content management, interoperability, and cross-agency cooperation and collaboration.
 - Create models and processes to help agencies ensure information is available to California's large and diverse population.
 - Promote potential of new technologies by designing for the future.

CHAPTER 3 – PUTTING THE CUSTOMER FIRST

People contact government to perform a business transaction, solve a problem, answer a question, or express an opinion. In the past, people have contacted the government by telephone, letter, fax, email, or in person to get help; however, the Web has opened a new communications channel, which has become one of the most used methods by which citizens reach government.⁶⁰ In 2004, Pew Internet and the American Life Program (Pew) reported that the top communications channels used to contact the government were the telephone with the Internet second, followed by in-person visits, emails, and letters.^{61, *} In addition, Pew found the number of citizens visiting government websites grew from 59% in 2004 to 66% in 2005.⁶²

Most Internet users expect to find government information on the web, and 39% of all Americans (including non-internet users) plan to turn to the Internet first for their next government contact.⁶³ The Internet offers a major communications channel by which government can deliver information and services to the general public, business, and government in an efficient, effective, and timely manner.

The US Congress recognized the impact the Internet made on the availability of government information to the public when it passed the E-Government Act of 2002, which became Public Law 107-347. One purpose of the Act was to “improve methods by which Government information, including information on the Internet, is organized, preserved, and made accessible to the public.”⁶⁴

To develop a customer focused website, we must identify who are our customers, what type of information and services do they need and want, and what information and services can we offer that may be less well known to our broad customer base, but are of great value to the general public. In addition, we should design and organize the portal so that the information and the services available on the site can be easily found, effortless to use and accessible to all.⁶⁵

Where We Are Now – Agency Centric Departmental Websites

Historically, California government public websites have been designed to meet programs needs first and customers’ needs second. In late 2000, MyCalifornia attempted to change our focus to the needs of our public and businesses. The goal of the state portal was to provide customers with an easy-to-use, single point of entry to California state and local government. However, the state failed to develop processes, guidelines or standards to ensure that the state website continued to meet customer needs.

* According to Pew Internet and the American Life Project, to contact the government, 42% of Americans used the phone, 29% visited a government web site, 20% visited in person, 18% sent email, and 17% wrote letters. If you add the number of people who visited a web site with those who sent an email, the percentage of people using the internet to contact the government is greater than those who used the telephone.

Since MyCalifornia's roll out in early 2001, several departments have engaged in redesign efforts; however, many of these efforts were based on departments' perception of who its customers were and what information and services they required or wanted.

California's web presence is fragmented with individual departments and agencies presenting information and services in a variety of ways. Services and information are presented to customers with little coordination between agencies to provide the customer with all the information he needs to find to answer a question or solve a problem. In the early days of the Internet, search functionality was seen as compensation for bad design. The world has changed. As more and more users turn to search as a quick, easy way to find the information they are looking for, search functionality has become a key feature of good design as long as the search engine returns results that are relevant to the user. In California, search functions are not coordinated throughout the state. The central search function lacks the flexibility to provide adequate results. The lack of a standard metadata set as well as the inconsistent use of metadata by agencies, makes it difficult for customers to search for information across department lines. Customers are turning to third-party search engines such as Google and Yahoo to find the information they need. Current research indicates that third-party search engines are the primary way in which information is found on the Internet.⁶⁶

Despite California's diversity of non-English speakers, the current portal offers content in English only. Most agencies and departments present information in English only or English with Spanish translations. The Attorney General's website is a notable exception, providing Megan's Law information and reporting services in thirteen languages with audio options.

The vendor for MyCalifornia conducted focus groups with users to attempt to identify general audiences and communities of interest. However, the state did not follow up with usability testing to ensure that users' needs were actually met. As a result of the lack of standard guidelines, department websites vary in terms of usability and accessibility. The use by departments of bureaucratic language, program jargon, and acronyms makes it difficult for the user to understand or determine whether they have found the appropriate, information to answer their question. At this time, only one department is currently pursuing an in-depth usability program to ensure that its website meets the needs of its customers.

Where We Want to Be – Customer Centric State Website

The California state website should meet and respond to the changing needs and expectations of the state's citizens and businesses. The website should present government information and services based around topics or user interests that transcend program divisions and levels of government. The website should be responsive to technology advances and should contain information that is current and accurate. It should not become stale, stagnant, and outdated. Customer assistance should be available in some form 24 hours per day, 7 days per week. The State of Texas found that citizen expectations of government are driven by their experiences in the private sector. Texas citizens want easy access, a choice of products, multiple payment options, and a quick

and easy to use the site, call center support with a live operator available 24 hours per day, 7 days per week, and compliance with the Americans with Disabilities Act.⁶⁷

It is important also that we pay particular attention to underserved communities in California; there are groups of the population who experience difficulties contacting and understanding government programs due to language, literacy, education, and access. The Pew Internet and American Life Project found that “the Internet is more than a bonding agent; it is also a bridging agent for creating and sustaining community.”⁶⁸ The United Kingdom created a charter program called Service First to address the problems of underserved communities. The program combined government resources at all levels with volunteer and private sectors to provide access to a broader array of services available throughout the community.

The California Performance Review report recommended that the portal be updated and expanded to meet its original vision as a gateway to state and local government information and services.⁶⁹ The California IT Strategic Plan for 2005 calls for the development of a new state web portal that will enable the state to identify and develop shared services and shared resources.⁷⁰ California needs to expand the services available through its website by encouraging departments to develop eGovernment solutions based on customer needs and expectations. The California IT Strategic Plan calls for development of a streamlined application development process by June 2006 that will decrease development time, complexity, and cost through reuse of existing applications and services, best practices, and case studies.⁷¹

The federal government, award-winning state portals, and other nations leading in eGovernment have established recognized models and best practices. To regain and move beyond the leadership it once showed, California’s website should be where citizens and businesses can find government information and services quickly and easily:

- The website would be organized from the users perspective, not a government perspective
- The design should reflect the purpose of the website
- The search engine should return relevant information and services.
- The navigation of the site should be intuitive and consistent throughout the site
- Content must be accessible to all users.
- Content should be written so that it is easily understood, without the use of acronyms, jargon, or bureaucratic terminology.
- Content should be provided in different languages when necessary

How Do We Get There?

Know our customers

The US General Services Administration (GSA) stated in its Annual Status Update to the E-Government Act of 2002 that to determine what content should be available on the federal government's FirstGov website, staff performed research to identify key customer groups. GSA's user research "provided guidance for including unique sections on Firstgov for various audience groups and subgroups, such as: businesses, Spanish speakers, seniors, parents, kids, Americans living overseas, government employees, military personnel and veterans, etc."⁷² California's population of over 35 million is arguably the most diverse in the nation[†]. Our challenge is to determine who our significant customer groups and subgroups are.

Once we know who our users are we can determine their needs and meet their expectations by providing information and opportunities to make suggestions, register complaints and provide feedback in a variety of methods.

A process should be developed that allows for ongoing customer input to ensure that the information and the services provided on the site meet customer changing needs and priorities. Some California departments host online surveys for their eGovernment services to collect information regarding the usability and convenience of their electronic services. Texas posted an online survey to collect customer feedback. Results were collected by the Department of Information Resources (DIR) and sent to the University of Texas (UT) for analysis. Survey results showed an 88-99% acceptance rate by survey respondents. BearingPoint, the portal provider for the State of Texas hosts a public hearing every two months to provide a forum for government, citizens, or businesses to ask questions, voice concerns, and provide feedback.⁷³

Key Points

- California should undergo an effort to identify and define all user audiences, including those who experience difficulty accessing government information and services.
- California should develop a process to routinely review our customer base and identify prospective new customers
- California should continually solicit and collect customer recommendations for website information and services.
- California should establish a model and guidelines to assist departments in weighing customer expectations against departmental mandates

[†] 27 percent of our residents are foreign born, 41% residents speak a language other than English at home and of those 48% said they did not speak English very well. 6% of our residents are Black or African American, 1% are American Indian, 13% are Asian, more than 15% are some other race, and 3% are of two or more races. 35% of the people in California are Hispanic. The greatest growth is seen among the young and the elderly populations. 9% of our workforce is self-employed, 15% are federal, state, or local government workers, and 70% are private wage and salary workers. More than 12% of our population reports some sort of disability. "California Population and Housing Narrative Profile 2004." [U.S. Census Bureau American Fact Finder. Retrieved March 17, 2006 from http://factfinder.census.gov/home/saff/main.html?_lang=en](http://factfinder.census.gov/home/saff/main.html?_lang=en)

While the primary focus of the state website should be on the needs of the customers, the needs of government agencies providing information and services should be considered. Departments will have to balance the needs of the public with their legislated mandates. It may not always be possible to provide the customer with what they want. Agencies and departments should have a model and guidelines to assist them in weighing the interests of the customer against departmental mandates. Included in the process should be a means in to inform customers why their request is not feasible.

Easy to Use Web Sites

Web pages should be easy to use and content understandable by the average user. The information on the pages should be current and contain few errors. The navigation system of the site should be quickly apparent to users and easily remembered on subsequent visits. Research shows that people cannot find the information they seek on web sites about 60% of the time. This can result in wasted time, reduced productivity, increased frustration, and loss of repeat visits and money.⁷⁴ Generally, government web pages are created and written by those who are close to the program. This can lead to assumptions that the average user will have knowledge of the business, vernacular, and organization of state government. Applying usability principles to the development of websites can eliminate many of the problems thereby providing customers with a positive experience.

Key Points

- California should develop a process to ensure that usability standards are incorporated into the design of web pages.
- California should pursue usability testing on any new web page design in the future.

Usability has two components – engineering and testing. Usability engineering involves a methodical approach to web page development, incorporating usability standards during development to produce a website that works for the users. Usability testing validates that the engineering was effective by allowing developers to observe citizens or businesses using the web pages to perform tasks, helping developers identify where incorrect assumptions were made. This can be accomplished with a few volunteers. Jakob Nielsen and Steve Krug, leading usability experts, recommend three rounds of testing with 3-5 users participating in each test. Testers follow a set list of tasks using the website and identify any problems they experience finding, using, or understanding the required information or service. Using this model, web developers fix the problems identified between rounds of testing.⁷⁵ ‡

‡ “The main reason is that it is better to distribute your budget for user testing across many small tests instead of blowing everything on a single, elaborate study. Let us say that you do have the funding to recruit 15 representative customers and have them test your design. Great. **Spend this budget on three tests with 5 users each!** You want to run multiple tests because the real goal of usability engineering is to improve the design and not just to document its weaknesses. After the first study with 5 users has found 85% of the usability problems, you will want to fix these problems in a redesign.” Jakob Nielsen, “Why you only need to test with 5 users,” <http://www.useit.com/alertbox/20000319.html>, accessed March 17, 2006.

California's Franchise Tax Board is pioneering the use of usability engineering and testing in the State of California. In 2004, they hired outside expertise to conduct an expert review of their website and perform usability testing with representatives of their major stakeholder groups. They recruited sixteen citizens representing their three key audiences: citizens, small business owners, and tax professionals. They found problems with inconsistent branding, unrecognized program names (e.g., "CalFile"), navigation difficulty, and problems understanding content due to jargon, too many frequently asked questions, and content that was not written for web presentation.⁷⁶ The Franchise Tax Board responded by creating a new webpage design for its pages that corrects many of the problems identified. This was done with the permission of the State CIO to deviate from the template currently used by state web pages. The Franchise Tax Board is creating templates for the new design that may be used or adapted by other departments if approved by the State CIO and the State Portal Steering Committee. They are pursuing usability engineering as part of their web development efforts and training their employees to conduct usability tests.

Branding: Users should know they are on an official State of California web page when they visit any part of a state government site. This is most easily accomplished through branding, or use of an easily recognizable logo that the average user will identify as California state government. One of the key problems identified by usability studies conducted by a consultant for the Franchise Tax Board is that there is no consistent branding throughout the site, that the state brand competes with the department co-brand for visual attention, and that the images used were not compelling or relevant to the state's business.⁷⁷ There is a current debate in the State of California whether to identify a single state brand that is used for all state government websites or to identify standards for state branding and department co-branding to allow users to know they are not only on the state website, but the department that is providing the information. The State CIO and the State Portal Steering Committee will resolve this issue.

Key Points

- California should establish a single state brand or logo that identifies all pages as California state government web pages.
- If California opts to use a state brand with departmental co-brands, standards and templates should be developed for departments and agencies to use in developing their co-brands identifying the page owner.
- Branding should be prominently displayed, but not challenge the user or require a lot of space on the page.

The branding should be noticeable, but should not dominate the page or use too much space. Under the federated governance model, individual departments will be responsible for designing and developing their own content. The state should create a logo representing the State of California, such as the state seal. If the state decides to pursue co-branding, standards should be established defining how individual agencies and departments may present their co-brands to ensure continuity and a common look and feel throughout all state government web pages. The branding or co-branding should not confuse or mislead users.

Making information easy to find: Visitors should be able to quickly locate the information and services they need by using a search engine or clicking on an appropriate link no matter where they are within a website. If the information on a website is too difficult to find, visitors will only return if they have no other options available to them.

There are several navigation models including directed, searchable, and tabbed that can help users find their way around a website. Generally, websites incorporate two or more navigation models recognizing that users will prefer to use different methods to find information.⁷⁸ How well a website's navigation models are structured, organized, and labeled will affect the users experience. The navigation models employed should be consistent throughout the site and simple to use.⁷⁹ Steve Krug identified the following questions a user should be able to answer through a website's navigation from any page of the site; this is particularly important if the user arrived at the page through a third-party search engine such as Google or Yahoo.

1. "What site is this? (Site ID)
2. What page am I on? (Page name)
3. What are the major sections of this site? (Sections)
4. What are my options at this level? (Local navigation)
5. Where am I in the scheme of things? ("You are here" indicators)
6. How can I search?"⁸⁰

Paul Taylor from the Center for Digital Government recommends adding three additional questions:

1. How many clicks until I find the information I need?
2. How many clicks until I complete my transaction?
3. What do I need to do to complete my transaction?⁸¹

Key Points

- California should establish policies, standards, guidelines, and best practices for departments and agencies to use when designing navigation for their websites to ensure consistency throughout the state.
- California should provide templates that meet the policies, standards, guidelines, and best practices.
- Templates, policies, guidelines, and standards should be flexible to allow departments and agencies to tailor their web content to meet the unique needs of their audience(s) while maintaining consistency with other state content.
- California should develop standards for taxonomies and metadata to ensure that relevant information can be found.

Under the federated model, each department and agency will be responsible for navigation within its own pages. The Department of Technology Services will be responsible for navigation on the state homepage and enterprise level pages. Inter-agency web service centers will be the responsibility of the agencies involved. Due to the lack of centralized development, California should establish policies, standards, and guidelines to ensure that all departments use consistent navigation methods so that information and services are easy for users to find without requiring knowledge or understanding of government programs or organization. This may be partially accomplished by providing templates for use by agencies and departments when developing their pages. The templates should be flexible enough to allow agencies and departments to consider the diversity of their audiences in the development of their web pages.

Content organization is closely tied to website navigation. Content that is organized using taxonomies and metadata enhance the ability of users to find the right information to their questions. Departments should use a common standard for metadata and other identifiers. To facilitate this, California should establish a basic thesaurus of common terminology for departments to ensure consistency throughout the website. Technology exists to create this thesaurus as a collaborative tool, enabling departments to identify and update terms collectively.⁸² This can help ensure that the thesaurus meets the needs of all departments, while maintaining the currency of the terminology. A working group is developing recommendations for standards, guidelines, and best practices for taxonomies and metadata to help agencies design and implement organization systems. The group will present their recommendations for review and adoption by the Portal Review Board, the Portal Steering Committee, and the State CIO.

Plain Language: The federal government has recognized the importance of plain language in government writing since it began advocating its use in 1995. Plain language has been defined by the U.S. Environmental Protection Agency as “clear language...simple and direct but not simplistic or patronizing. Using plain language doesn't mean everyone's writing must sound the same. There is no one ‘right’ way to express an idea. Every thought can be expressed in many different ways and the variety comes from the individual way we approach an idea or writing task. There's plenty of room for your own style—but it will only blossom once you have overcome the poor writing habits that are typical of most government writing.”⁸³

Many users to government websites have limited

Key Points

- California should establish policies, guidelines, and standards to assist departments in developing web pages using plain language.
- California should establish standards and guidelines to assist departments and agencies in identifying the key audiences and determining what, if any, language translations are needed to provide service to those audiences

reading skills; over 40% of American adults are at or below the basic prose literacy level.[§] People should understand what they read first time they read it, especially materials that explain how to obtain benefits or comply with requirements. Government websites written in plain language and free of bureaucratic terminology, program jargon, or acronyms will make information more easily understood by readers in a shorter amount of time, minimize the need to explain services and increase the quantity of correctly completed forms and applications.⁸⁴ In March 2005, Governor Gregoire of Washington issued an executive order requiring state departments and agencies to use plain language in announcements, publications, and other documents sent by state government to the citizens of Washington.⁸⁵ They found that documents written in plain language are easier for citizens to understand and result in fewer questions and improved responsiveness. The Washington Department of Revenue realized increased revenues of over \$1,000,000 from language improvements to a single letter.⁸⁶

In addition to plain language, content should be accessible in languages spoken by key audiences of information and services. According to the 2000 U.S. Census, approximate 6.3 million Californians speak English less than well.⁸⁷ The state needs to establish standards and guidelines to assist departments and agencies in identifying the key audiences and determining what, if any, language translations are needed to provide service to those audiences.

Accessibility

California has a diverse population with users of varied abilities and disabilities. The state website must be accessible to all users within the state. Per federal law, state web pages must meet or attempt to meet the standards outlined in Section 508 of the U.S. Rehabilitation Act. While departments and agencies strive to meet the minimum accessibility requirements established by Section 508 of the U.S. Rehabilitation Act, standards and guidelines should be established to assist departments and agencies in exceeding these minimum requirements where necessary and feasible. California should establish this as a minimum standard, while encouraging agencies and departments to strive to meet the more stringent standards set by the World Wide Web Consortium (W3C). Web content and services

Key Points

- At a minimum, California state web pages will strive to meet Section 508 standards for web accessibility.
- California should strive to make its web pages as accessible as possible to all users per the W3C model.
- The state will review current policies, standards, guidelines, and best practices and update or create new ones where needed.

[§] According to the National Assessment of Adult Literacy, 14% of American adults are at the “below basic prose literacy” level and 29% are at the “basic prose literacy” level. “Below basic indicates no more than the most simple and concrete literacy skills.” Adults at this level range from non-literate in English to being able to “easily locate identifiable information in short, commonplace prose texts.” “Basic indicates skills necessary to perform simple and everyday literacy activities.” Adults at this level are able to read and understand “information in short, commonplace prose texts.” “Key Concepts and Features of 2003 National Assessment of Adult Literacy” National Center for Education Statistics, <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2006471>. Retrieved March 17, 2006.

should be usable by people with low or no vision, hearing difficulties, motor difficulties, learning disabilities, and language difficulties. While legal requirements on accessibility focus on disabled users, it is important that the website is accessible to all users. General accessibility includes ensuring that information is easy for all users to find and to understand. Much of the general accessibility issues will be addressed through navigation, usability, and findability. The state should review current policies, standards, guidelines, and best practices and update or create new ones where needed. Information and assistance should be provided to all web developers within the state. The issue is being addressed in detail by working groups reporting to the State Portal Steering Committee and the Department of Technology Services.

Building the Customer Service Framework

- Recognize that the Internet is changing the way citizens and businesses interact with government.
 - Recognize the Internet as an increasingly important communications channel
- Identify and understand California's diverse customers, their needs, and their expectations.
 - Involve users in the planning, development, design, and testing of state government websites.
 - Create an ongoing process for identifying user expectations and needs through interaction and feedback.
- Build models based on best practices to ensure eGovernment information, products, and services are usable, useful, and accepted.
 - Organize content from the user perspective, not the government perspective.
 - Create service centers focused on related information and services rather than on government organization.
 - Ensure the search engine returns relevant information and services.
 - Create navigation that is intuitive and consistent.
 - Make information and services accessible to all users. Provide content in different languages when necessary.
 - Write content to that the average citizen easily understands it.
 - Encourage state agencies to use emerging technologies where needed to provide customer-focused government information and services.
- Provide leadership to make eGovernment information, products, and services usable, useful, and accessible.
 - Develop policies, standards, and guidelines to improve usability of government web pages.

CHAPTER 4 - BUILDING PUBLIC TRUST

Public trust in relation to eGovernment and Internet information and services is the confidence of website users that the information they find is accurate and up to date, that automated services will function as intended, and that any personal information the user provides through the website will be secure from unauthorized access and used appropriately by the service provider. If the public does not trust e-government solutions, they will not use them and e-government will fail. Californians must trust that when they conduct government business online their personal information will be kept private and used appropriately, their information is secure from outside threats, and their transaction will be processed accurately.

Key Points

- If the public does not trust e-government solutions, they will not use them and e-government will fail.
- Users must trust that the information and services on the state website are accurate, current, secure from unauthorized access, and will function as intended.

As noted earlier, privacy and security concerns were identified as the top two reasons people don't use e-government services.⁸⁸ Americans are not alone in this; privacy and security are the top citizen concerns about eGovernment worries in public opinion surveys in various countries. "Unless ordinary citizens feel safe and secure in their online information and service activities, e-government is not going to grow very rapidly."⁸⁹ Information security breaches occur in a number of ever-evolving ways. Hacking, or gaining unauthorized access to digital information to steal or corrupt data, is becoming a major area of concern for Americans. Several high-profile security breaches have been in the news during the past year.

Privacy is a major concern to many Californians – especially in terms of government use of information. "Government invasions of privacy are a potentially greater threat than those presented by businesses, because unlike advertisers and other private entities that collect information about us, government has the power to strip us of our property and our freedom...Personal information collected by government agencies demands more stringent protection because citizens are required to divulge the information, because they may not opt out of any authorized uses of the information, and because the information can be used to take away their rights."⁹⁰ The Internet has intensified fears related to loss of privacy by threatening anonymity. At the same time, users are expecting more personalized services from websites. There is a tradeoff – to provide the level of service expected, companies must store personal information about their customers. Commercial websites and search engines regularly collect information about the buying and browsing habits of their visitors. Some sites store personal information including name, address, and credit card number to provide better service to customers. Citizens are also concerned that the ease and efficiency of information sharing between government agencies and entities provided by eGovernment could lead to government abuse of power - "Big Brother is watching you"⁹¹.

These concerns must be addressed through public policy written specifically for the digital world we live in today. Information security expert Bruce Schneier warned “The key mistake people make is that they think about it wrong. They think, 'How do I avoid the threat?' When they should be thinking, 'How do I manage the risk?'"⁹² California can manage the risk through policies, procedures, guidelines, and standards that prevent abuse of private information by government or criminals. These policies must be an integral part of the state's eGovernment efforts. “People are the essential security element. You always build the system around people.”⁹³

Where We Are Now – Department-Focused Policy and Process

California's approach to Internet privacy and security is fragmented. Although the state portal provides a semblance of integration, state agencies and departments manage their own web content including privacy, security, and identity management. A state web privacy statement exists, but is written in legal terms that may be difficult for the average user to understand. Each department site posts its own privacy policy. Some use the language from the state policy; others have developed their own language. Most sites include the link to the privacy policy at the bottom of the page in small text; the policy itself is also displayed in small text. The California Department of Justice website, which does not follow the state template, is a notable exception. Their privacy policy link is displayed as a tab at the top of the page. The information is written in plain language and organized by topic.

Information security for the web is managed at the agency or department level. The departments' chief information security officers are responsible for setting and implementing security policies to ensure that the information provided to the department by website users is safe from unauthorized access. Some departments, particularly those that are entrusted with citizen's personal and financial information, implement and maintain strict information security policies. However, there are no clear guidelines or standards at a statewide level at this time.

Identity management for web services is also managed by the department or agency providing the service. This results in citizens and businesses possessing multiple identifications within state government. A business wishing to pay taxes online would have at least three identification numbers and passwords because three departments provide business tax services. Some departments manage user identity at the program level, resulting in further fragmentation. A citizen wishing to renew both their driver's license and vehicle registration must handle each transaction separately - entering a unique identifier, personal information, and payment information separately for each transaction. This is not only inconvenient for the user, but blurs the auditing trail for state government. Departments and agencies must untangle the multiple identifications of a single user to determine the various activities. This not only contributes to inefficient state government, but opens the door to fraudulent activities by users.

Where We Want to Be – Standardized Statewide Policy and Process

The California IT Strategic Plan outlines its intentions to adopt statewide security and privacy protection standards. By March 2006, the State Information Security Officer and the Office of Privacy Protection will publish best practices for information security and privacy protection⁹⁴.

Users must believe that digital government exists for their benefit, not to benefit or empower government. California residents and businesses must believe that conducting business with California government electronically will provide a pleasant, efficient, hassle-free experience. The Pew Internet and American Life Project found that the convenience and usefulness of eGovernment websites resulted in an improved perception of government functionality for many users.⁹⁵ Government employees must accept the state website as a new, improved way of conducting business. Users must trust in the competence of automated systems established and maintained by government. They must be aware of and have faith in the effectiveness of California's privacy and security efforts. People must have faith that automated digital transactions will be completed accurately and efficiently. The Pew Internet and American Life Project concluded that "To gain user acceptance, government must demonstrate a real, immediate, and practical value in eGovernment."⁹⁶

The system must send information to the correct entity (and only to the correct entity), the automated transaction must work with a high level of accuracy and availability, and the automated system must interface with backend systems to send products as needed (i.e., license plates, driver's licenses, tax refunds, etc.). eGovernment options should provide faster turn-around times than alternative channels. Automation should reduce errors not increase them. One way this can be accomplished is through the development of a statewide identity management system with single sign-on for website users. A working group is being established to identify and address issues related to identity management, information security, and privacy for the state web service center.

The state website can act as an interface between the various service channels and the enterprise. As processes are re-engineered and integrated along business lines, the website will enable collaborative efforts. This will be dramatically different than the program-focused, silo model we use today. Improved accuracy and efficiency must be communicated to Californians to encourage use of the state website. Negative experiences, particularly with government, are relayed quickly and loudly and will affect customer acceptance.

In addition to having faith that the system will operate as planned, people must have confidence that government services are in their best interests and will be executed fairly and justly. As noted earlier, the Public Policy Institute of California (PPIC) found that 77% of Californians have some or very little confidence in their state government's ability to plan for the future and most have very little faith in the competence and good faith of elected officials⁹⁷. The state website can make government more transparent to citizens through information dissemination, increasing citizen trust in their government.

Communication will be vital to managing these changes. The state website must be accepted and used by California residents and businesses to be successful. Changes to the government processes and business model must be transparent to the public, clearly communicated, and accepted at all levels of government.

How Do We Get There?

Privacy

Technology itself is privacy-neutral.⁹⁸ However, much of the information collected and stored by government is confidential. Policies and procedures must be developed and enforced to ensure that privacy is protected. The National Association of State CIO's (NASCIO) concluded that "For states, protecting and maintaining citizens' trust that their personal information is safe from unauthorized exposure is of the utmost importance."⁹⁹ Unfortunately, the volume of confidential information collected by state government entities leaves states particularly vulnerable to unauthorized, potentially criminal, access.¹⁰⁰ According to NASCIO, "A vital part of maintaining citizen confidence within this example is ensuring that the personal information that citizens divulge during the authentication process is kept private and not exposed to unauthorized individuals, such as identity thieves."¹⁰¹

Key Points

- The policy protection policies being developed by the State Information Security Officer and the Office of Privacy Protection should include policies specific to eGovernment and the state website.
- Privacy protection policies specific to eGovernment and the state website should be clearly communicated to the public in plain language that is easily understood by the average citizen.

A major concern with information sharing between government agencies is how to limit department's access to the information they need to conduct business. Perhaps some basic information could safely be shared amongst agencies – name, address, driver license or identification card numbers are possibilities – but most information should be shared on a need to know basis only. In particular, health information, financial information, and confidential information should be guarded closely. A growing concern is government sharing of information with private entities. In December, 2005, the Internal Revenue Service proposed a policy change that could enable tax-return preparers to legally sell financial information and other data from client returns with written taxpayer consent.¹⁰² The purpose of the policy was to clarify the regulations governing the consent process; however, it has raised considerable concerns among taxpayers and advocacy groups.¹⁰³ Technology can be used to enhance privacy and to ensure that information is shared appropriately through authentication and authorization tools, but these tools are driven by policy.

Policies, procedures, guidelines, standards, and best practices must be developed and adopted statewide to ensure privacy and information is secure before users will accept e-government. There is currently an effort to define privacy protection policies at the state

level; these policies will need to include some specific to the unique issues presented by eGovernment. It is important that these policies be clearly communicated to the public in plain language that is easily understood by the average citizen. Brown University's Center for Public Policy found that visible statements of how a website is addressing privacy and security concerns can reassure users and encourage them to use eGovernment services and information.¹⁰⁴ However, as of 2003, only 12% of eGovernment sites examined in their study of global eGovernment had some form of privacy policy posted on their site.¹⁰⁵ Those websites that did include privacy statements generally focused on government's legal liabilities and rarely included information about the rights of the user.¹⁰⁶

Security

Government has a responsibility to maintain the public's trust in its systems from unauthorized access and to protect data integrity and confidentiality. Secure systems ensure the continuity of the state's business. Systems and data must be secured with security best practices and with security assessments being conducted on a regular basis. As more systems and government interactions become automated and web services grow in popularity, California will need to develop deliberate policy addressing security and privacy of machine to machine communication of personal information. Government is responsible for securing the information it collects and stores from unauthorized use.

This is partly done through privacy protection and identity management policies and procedures. Security policies and procedures are equally important. Per information security expert Bruce Schneier, "The trick is to remember that technology can't save you. We know this in our own lives. We realize that there's no magic anti-burglary dust we can sprinkle on our cars to prevent them from being stolen. We know that car alarms don't offer much protection. The Club at best makes burglars steal the car next to you. For real safety we park on nice streets where people notice if somebody smashes the window. Or we park in garages, where somebody watches the car. In both cases people are the essential security element. You always build the system around people."¹⁰⁷

Key Points

- The information security policies being developed by the State Information Security Officer and the Office of Privacy Protection should include policies specific to eGovernment and the state website.
- Information security policies specific to eGovernment and the state website should be clearly communicated to the public in plain language that is easily understood by the average citizen.

If digital government is to be accepted and used by Californians, they must have confidence that data will be secured and protected from predators. Enterprise information security is being pursued as a separate segment but the state portal effort will be closely related to and dependent on successful implementation of enterprise information security policies, procedures, and tools. The state website should include an information security policy that is prominently posted and written in plain language easily understood by the average citizen. Brown University found that as of 2003, only

6% of government websites studied posted some form of security policy on their site.¹⁰⁸ This number is changing; recently the Center for Digital Government found that 70% of government websites posted a security notice.¹⁰⁹ California should integrate the security policy notice into the design process to ensure that departments and agencies cannot publish web content without informing citizens of how their information will be used, secured and protected.

Integrity and Confidence

Through topical information and services, transparent and open processes, and accurate information, the state website can help raise people's confidence in their government. However, this problem is greater than the website and must be addressed at all levels of government and in all programs. Within the federated model, departments and agencies will be responsible for the integrity of their content and services. At a state level, we can clearly establish expectations for the quality of departmental content and services and provide guidelines, standards, and best practices to assist departments in meeting those quality expectations if needed. A working group reporting to the State Portal Steering Committee has been formed to identify and recommend standards, policies, guidelines, procedures, and best practices to ensure that content posted on the state website is current and accurate. Once policies have been established, it will be essential to communicate them to state webmasters and to promote ongoing communication. Establishing a working group of webmasters would allow sharing of expertise across department and program lines, resulting in a better, more cohesive website.

Key Points

- Departments and agencies will be responsible for ensuring that content and services are accurate, current, and functioning properly.
- The State CIO and the State Portal Steering Committee should establish expectations for quality of web content and provide guidelines, standards, and best practices.
- The state should establish a working group of webmasters to encourage sharing of expertise across department and program lines.

User Acceptance

The state website must be accepted and used by California residents and businesses to be successful. As envisioned, the state web service center will be more than an ordinary website, it will be an interface between the various service channels and the enterprise. As processes are re-engineered and integrated along business lines, the website will enable collaborative efforts. This will be dramatically different than the program-focused, silo model we use today. The changes must be clearly communicated and accepted at all levels of government to be successful. One method of gaining user acceptance is to involve the users in the creation and maintenance of content through surveys, focus groups, electronic or telephone suggestion centers, etc. This not only ensures that the content and services provided meet customer needs, but that their concerns regarding privacy, security, and system integrity are addressed in an open and transparent manner. Publicizing the state's efforts to create and maintain a secure, well-functioning digital government channel may improve the public's opinion of California government efficiency and effectiveness.

Key Points

- User input regarding information security, privacy protection, and system integrity issues related to the state web presence should be solicited.
- The state should publicize its efforts to create and maintain a secure, well-functioning digital government channel.

Identity Management

Identity management determines how a system will confirm that users are who they say they are and how the system will determine what information those users should be able to access. The primary functions of identity management are authentication and authorization. "E-Authentication allows the government...to verify with a certain level of confidence that the users are who they claim to be within the context of electronic, self-service transactions... it allows states to have confidence that they are issuing licenses to the right individuals; to properly manage citizen benefit applications and case files as well as employee benefits and pensions; and, to conduct business and contractual transactions with an increased level of ease."¹¹⁰ Furthermore, because state governments are also responsible for creating, updating, and ending identities it is essential that the state be able to identify website users accurately.¹¹¹ NASCIO identified the following factors unique to state government that can complicate their eGovernment authentication efforts:¹¹²

Key Points

- The working group responsible for developing policies and processes to implement enterprise-level identity management for California should address web-specific issues including single sign-on.

- Citizen's interactions with government are usually mandatory, as opposed to the discretionary nature of their interactions with the private sector.

- Diverse citizenry can make it difficult for state government to serve various market sectors electronically.
- The relationship of citizens and businesses with government is typically intermittent, yet spans their lifetime.
- Citizens have higher expectations of government's ability to protect the privacy and security of their personal information compared to the private sector.
- Conversely, citizens generally distrust government's ability to protect the privacy of their personal information
- There is no single strong identifier that can be used by multiple government agencies
- Implementing strong electronic authentication systems is costly and complicated.

California needs to develop policies and processes to implement identity management not only for our end-users but also for government agencies and departments. This is being accomplished in a separate effort. It will be important for the working group responsible for developing policies and processes to implement enterprise-level identity management for California to address web-specific issues including single sign-on.

Building the Public Trust Framework

- The state portal can help raise confidence in government by making government more transparent through information dissemination.
- Develop policies, procedures, standards, and guidelines specific to the state's eGovernment efforts intended to prevent abuse of private information by government or criminals.
 - Adopt and enforce statewide.
 - Write in plain language that is easily understood by the average citizen.
 - Address information security, privacy protection, and identity management.
 - Clearly communicate to the public.
 - Publicize efforts to create and maintain a secure, well-functioning digital government channel.
- Solicit user input regarding information security, privacy protection, and system integrity issues related to the state web presence.
- Over time, develop and implement a statewide identity management system with single sign-on for website users.

CHAPTER 5 - GOVERNANCE

Governance is the decision-making process that will be used to manage and maintain systems, the rules and regulations enacted to ensure the system meets its objectives, and the mechanisms that will be used to ensure compliance with the rules and regulations. “[It] is the process by which those who set policy guide those who follow policy.”¹¹³ The governance model provides ownership and decision-making processes, driving the structure for development and enforcement of standards, policies, rules, and regulations. The governance structure for the portal must be efficient, authorized to make decisions regarding the portal, and representative of all organizations that participate in the portal by providing information and services.¹¹⁴

Key Points

- A governance process provides ownership and decision-making processes to ensure that the portal meets its objectives and that departments are in compliance with associated rules and regulations.

There are three basic governance models used in information management – centralized, decentralized, and federated.

Centralized Governance Model: The centralized method focuses power and authority into a single department. It is a highly controlled, bureaucratic, process-driven model.

Decentralized Governance Model: The decentralized method distributes power through many departments without a single owner. This maximizes creative freedom for content owners and publishers, but requires increasing resources, results in pages that are inconsistent in both content and appearance and are difficult to navigate.

Federated Governance Model: The federated model, adopted by the federal government of the United States, combines the two by selecting a representative team to create and enforce policies, standards, and templates while control of content and development within the constraints of the policies, standards, and templates is held at the department level. It is the emerging model for web portals. In a federated model, the website is governed by a team through implementation of policies, standards, and templates. The federated model encourages collaboration and cooperation across program and functional lines supporting the vision of government without boundaries, is sustainable, and allows for multiple service channels and multiple funding sources.

Where We Are Now – Decentralized Web Presence

California currently has a centralized portal but a decentralized web presence with most departments responsible for their own content and services. Departments host their content on department servers, in state-run data centers, or at third-party service providers. Most executive departments – those departments that report directly to the Governor’s Office rather than to an elected official, board, or commission - utilize the

state template for a uniform look and feel and standard navigation; however, many constitutional offices and other branches of state government do not follow the template.

There is a central state portal with search functionality and a half dozen departments residing on centralized portal servers and software. When the portal was established, it was intended for all state departments and agencies to migrate their content to the centralized portal servers and software; however, this proved too costly for most departments. As noted earlier, the State CIO and State Portal Steering Committee decided to decommission the portal as soon as practical due to the onerous cost to maintain the portal servers and software and the lack of acceptance by departments. The six departments currently residing on the portal will need to be migrated to independent servers. The search functionality is outdated and insufficient to California's needs. The software relies on metadata which is not consistently applied throughout departments and agencies. Due to the distributed nature of state websites, it is not possible to limit a search from the state portal to a specific department or program. Some departments allow limited searching within their own sites, but the functionality is dependent on the search solution purchased by the individual agency or department. There are links to related information on most state sites but only a few topical collaborative sites. It can be difficult to find information and services unless the user is familiar with California's organizational structure and programs.

There are high-level groupings of information at the portal level and on some department sites based on communities of interest with links to the departments providing information. However, users must navigate back and forth between the main portal page and the various departments to find related information provided by different departments. California has begun the move toward collaborative, topical web centers through sites such as www.taxes.ca.gov, a cross-agency effort combining tax information from Bureau of Equalization, Employment Development Department, and Franchise Tax Board and www.westnile.ca.gov, a multi-agency site presenting information about West Nile Virus in California from affected state agencies and local governments. Most of these efforts have resulted from legislative mandates; they are limited in number and rely on informal collaborative efforts between the affected agencies and departments.

Where We Want to Be – Federated Web Service Center

Based upon interviews with California departments and agencies and input from the State CIO, the State Portal Steering Committee envision a federated web presence in which departments and agencies are responsible for creating and maintaining content and services within policies, guidelines, and standards established at the enterprise level by the State Portal Steering Committee and the State Portal Review Board.¹¹⁵ Within the federated model, the majority of governance, funding, staffing, and operations occurs at the department or agency level according to state regulations and processes that are established at the enterprise level within the structure provided by the enterprise architecture. The governance structure should be flexible to allow the state to easily adapt to changing customer expectations, industry shifts, and emerging technology.

As noted earlier, the Pew Institute's Internet and American Life Project found in 2002 that nearly 40% of Americans look for government information online before pursuing other channels¹¹⁶. To provide information and services in a manner that is intuitive to our users, we must have collaborative, cross-agency web centers created and maintained by individual agencies or departments providing related services. Through these web centers, communities of interest bonded by similar interests become the glue that will bond agencies and departments in cooperative and collaborative efforts.

Californians expect to find information topically, without needing knowledge or understanding of the state's organizational structure or the level of government providing the service. California must break down the silos between programs through cooperation and collaboration between agencies, departments, local government, and the federal government. This can be accomplished through cross-agency web centers providing government information by topic across program lines and shared services. These web centers can provide government a forum to present related information without program-based silos. Opportunities for collaborative web service centers may be identified at the enterprise level or by the programs providing services.

The federal government uses cross-agency portals to provide integrated information and services within its federated governance model. Agencies involved in the creation of a cross-agency portal provide the funding and governance for those pages and services while the enterprise organization, FirstGov, provides standards and central access to information. Shared services, hosted at either the agency or enterprise level, encourage agencies and other stakeholders to coordinate their efforts on collaborative projects allowing the State to spread costs among participating agencies.¹¹⁷ It also encourages agencies to adapt technologies developed by other agencies for their own use rather than spending money and time to design, develop, and operate their own system. This cooperation and collaboration between agencies results in fewer duplicate and redundant services, increased efficiency, and cost savings. Sharing services requires strong communication and coordination between agencies to identify and leverage collaborative efforts and to manage the savings realized through sharing.

To achieve collaborative government, agencies must be willing and able to cooperate on enterprise efforts across boundaries. The state can manage the cooperation on a statewide level through policies, standards, and guidelines established at the enterprise level to ensure uniform navigation, look and feel, identity management and search functionality. The State Portal Steering Committee could provide a cross-agency workgroup to establish and maintain the policies, standards, and guidelines with input and recommendations by the State Portal Review Board and other state portal teams. To be effective, all state government entities should conform to the state policies, standards, and guidelines for look and feel and navigation. In addition to policies, standards, and guidelines, the state should pursue improved search functionality and a statewide identity management solution at the enterprise level that can be utilized by agencies and departments. This will improve the customer experience by making information easier to find and better protecting user identity while enabling cross-agency information sharing and digital collaboration. The state is pursuing an enterprise identity management solution through a separate effort.

Within any governance model, decision-making authority must be assigned. This can be done either by assigning ownership and authority for the portal to an existing department or position or by establishing an independent body representative of the main stakeholder groups. Other states including Colorado and Texas have found that legislation provides permanence for the portal governance structure.¹¹⁸ The federal government created the FirstGov office within the General Services Administration (GSA) Office of Communications and Citizen Services. GSA hosts the federal portal with leadership and direction provided by the federal Office of Management and Budget (OMB). A board of directors drawn from the President's Management Council and the federal Chief Information Officers Council provides governance¹¹⁹. Texas and Colorado established portal authorities responsible for managing and administering portal initiatives, developing policies related to the portal, operating and promoting the portal, overseeing portal budgets, and evaluating performance of portal initiatives. The portal authority is made up of representatives from the three branches of state government, local government, industry, and citizens. Both states passed legislation creating the independent bodies and providing the required authority model.¹²⁰ In June 2005, Texas abolished their portal authority, reassigning all responsibilities to the Department of Information Resources.¹²¹

In 2005, California's State CIO created the State Portal Steering Committee and the State Portal Review Board pursuant to the California State Information Technology Strategic Plan. The Steering Committee is made up of the directors of a cross-section of departments and the State Portal Review Board consisting of the Chief Information Officers of a cross-section of departments. These groups, with the guidance of the State CIO, have assumed responsibility at the current time, for enterprise-level decisions regarding the state website including the creation and maintenance of policies, standards, guidelines, and best practices. Individual departments remain responsible for decision-making specific to their own content and services.

The governance structure, the enterprise architecture, and the associated policies, standards, and guidelines will both necessitate and enable inter-agency (and inter-government) collaboration. New lines of communication, new processes for identifying and developing services, new processes for sharing information, and new security and privacy policies need to be identified and adopted by the departments and agencies to support this new approach to government. Cooperation and collaboration between departments, programs, and levels of government will provide the catalyst for a new approach to government. The governance model must address how information and services will be managed across the enterprise to ensure that all affected and/or interested agencies across all levels of government are involved in portal initiatives. Steve Monaghan, CIO of Nevada County, California stated, "Technology is a catalyst that helps you cross...silos, but you have to attack ... issues from more of an organizational development perspective than a technology perspective."¹²² Communication and standards will be the key to creating a collaborative and cooperative state government.

How Do We Get There?

Emerging IT Governance Model

The State Chief Information Officer, Clark Kelso, has outlined a clear strategy for the immediate future of information technology in California state government. The IT Strategic Plan and the Enterprise Architecture Framework call for a federated governance approach wherein the state provides general direction, policies, standards, and guidelines for the departments and agencies to implement individually. There is an emphasis on cooperation and collaboration with departments and agencies using successful IT implementations as models and reusing technology where possible to reduce rework. Shared services are planned for common digital services such as identity management, eCommerce, and licensing. Departments with expertise in the service will take responsibility for developing and maintaining a web service, and then make it available to all other state departments through inter-agency service agreements. This will reduce redundancy and result in a more cohesive and standard user experience for our customers. The emphasis will be on cooperation and collaboration between state agencies to develop a web service center for Californians.

Key Points

- The state web service center should be developed in accordance with the state IT strategy outlined by the State CIO.

Selecting a Federated Web Service Center Governance Model

The State CIO and the State Portal Steering Committee have decided to implement a federated governance model for the state's web presence. The State Portal Steering Committee and the State Portal Review Board will develop and maintain policies, standards, and guidelines to ensure a common look and feel, use of plain language rather than government jargon, search functionality that works throughout the state's content without regard for the program providing that content, communities of interest, and topical web centers. Departments will be responsible for creating and maintaining content and services for the programs within their domain. This responsibility will include governance, funding, hosting, maintenance, and ensuring that the content and services meet the needs of their users. Department web content should be channeled through web centers serving communities of interest. The State Portal Steering Committee and the State Portal Review Board will work with the departments and agencies to develop and maintain best practices. The federated governance structure will be flexible to ensure that the state's web presence is in alignment

Key Points

- The State Portal Steering Committee with input from the State CIO, the State Portal Review Board, and government partners at the local and federal level should be responsible for developing and maintaining policies, standards, and guidelines for the state's web presence.
- Departments should be responsible for governance of web content and services supporting programs within their mandate.
- The federated governance structure should be flexible to ensure alignment with industry standards, technology advances, and customer expectations.

with industry standards, technology advances, and customer expectations. It is important to note that the creation of the state web service center will be a long-term endeavor, implemented in phases. The policies, standards, guidelines, and best practices supporting the governance structure will also be developed over time.

Sponsorship of the State Web Service Center

An agency or department should be selected to sponsor the state's website. The sponsoring agency would be responsible for working with the State Chief Information Officer to promote the website, make final decisions as needed, and provide funding for ongoing operations and maintenance. Ideally, the sponsor of the state web service center would be a large, powerful, well-funded agency with direct responsibility to California's citizens and businesses across program lines as well as close ties to the Department of Technology Services where the website will be hosted. The sponsor should have a strong working relationship with other agencies and departments within California. Identifying a single agency responsible for the ongoing operations, growth, and development of the state website would help ensure steady, reliable, and sustainable leadership, governance, and funding.

Key Points

- An agency should be selected to sponsor the state web service center.
- The sponsoring agency should be responsible for working with the State Chief Information Officer to promote the website, make final decisions as needed, and provide funding for ongoing operations and maintenance.

Evolving, Sustainable Information Technologies and Governance

The state website should be viewed as an evolving, developing resource for state government and its business and public users, responding to their needs with new content, service applications, functional capabilities, and modes of delivery. The Internet is still in its infancy. The governance structure for the State website should encourage and support relevant developments in technology, providing direction for its appropriate use.

A model exists in enterprise architecture, being widely used in the federal government, a number of firms in the private sector and within this last year in California state government. Enterprise architecture can provide the technical infrastructure to support a sustainable, multi-channel website by providing an environment supportive of cooperative and collaborative efforts, shared services, and shared information. The architecture framework also provides the high-level governance structure for the state website, providing a roadmap "to enable better information technology decisions that are driven by the business needs of the state in the delivery of services"¹²³. This will be accomplished by standardizing and consolidating

Key Points

- The state website should be an evolving, developing resource.
- The governance structure should encourage and support developments in technology.
- Governance of the state website should conform to the enterprise architecture framework.

the State's information technology infrastructure and management and by guiding the consolidation, acquisition, maintenance, and operations of information technology systems. The architecture is based on the following four models.

Breaking Down the Silos Through Cooperation and Collaboration

Customer expectations of seamless government necessitate the sharing of information across departments and levels of government.¹²⁴

Governance provides the structure needed for departments to share and access information repositories across organizational lines.¹²⁵ The federal government has found that a monthly conference call between content managers from federal agencies facilitates inter-agency collaboration. Furthermore, the relationships established during the monthly discussions can speed dissemination of information during emergencies. The federal government also hosts an electronic mailing list of people interested in the portal. This promotes communication between agencies, levels of government, and quasi-governmental agencies. Finally, the federal effort includes a website,

www.core.gov, a Component Organization and Registration System where federal agencies can

register business processes or services for review and reuse by other agencies. California could follow the federal model by developing an email list and a working group of webmasters with regularly scheduled meetings or conference calls. Communication could also be encouraged by developing a central government to government website on the portal where webmasters and content managers can list information about projects under consideration and provide input regarding similar efforts and technology or services that could be leveraged to meet the need.

Key Points

- California should facilitate sharing of information, best practices and planned initiatives between department webmasters and content managers.
- California should continue to pursue and encourage the creation of cross-agency portals to present information and services in a topical manner regardless of organizational silos.
- California should pursue shared services at both the enterprise and agency levels.

Developing Policies, Guidelines, and Standards to Support Interoperability

Standards established at the enterprise level can be used to support interoperability and collaborative cross-agency efforts. The United Kingdom (UK) has developed an interoperability framework that clearly defines technical policies and specifications to promote adoption of World Wide Web and Internet specifications for government systems as well as metadata standards to assist users in finding information and services. The UK also developed a website, GovTalk, to provide support, best practices, toolkits, and XML schemas for use by the public sector in developing new applications¹²⁶. By defining enterprise-level open standards for

Key Points

- California should develop, document, and distribute standards to support interoperability, information sharing, and inter-agency collaboration.
- Standards should be open and incorporate industry best practices.

software and development efforts, California could establish an environment that supports information sharing and inter-agency collaboration.

Staffing of Enterprise-Level Pages and Services

Staffing needs and sources for both the initial building and ongoing development and maintenance will need to be determined. Within the federated approach to website development, departments and agencies will be responsible for the majority of the staffing needed to create and maintain the state's Internet content and services. Technological staffing needs at the enterprise level should be limited to maintenance of the search functionality and the main state web pages. Staffing needs at this level have not yet been determined. California will need to decide whether the State of California will outsource development and management as Virginia, Texas, and Washington have done or if we will develop and maintain the website in-house. If the website will be built and managed by California state employees, staffing will need to be provided to the hosting entity to support operation and maintenance. California will need to determine the staffing needs after defining the state web service center and its governance model and then determine the necessary skill sets and perform a gap analysis to identify what training and expertise is needed to continue.

Key Points

- Departments and agencies will be responsible for the majority of the staffing needed to create and maintain the state's Internet content and services.
- The Department of Technology Services will be responsible for identifying and providing the staff necessary to support the state-level web pages and search functionality.

Building the Governance Framework

- Establish a governance structure that recognizes:
 - those being served;
 - the three branches of state government;
 - diversity of agencies, departments, boards and commissions;
 - our partners within federal and local governments; and
 - the non-profit and private sectors.
- Encourage cooperation and collaboration to break down the internal silos within state government and interactions with its partners.
 - Promote cross agency and enterprise efforts to develop service centers, and customer-focused information and applications development.
 - Establish enterprise standards supporting interoperability and collaborative cross-agency efforts.
 - Reach out wherever appropriate to federal and local governments to develop seamless user access to government services.
- Recognize that successful e-Government programs have had strong executive sponsors.
 - Identify an agency responsible for the state website to ensure steady, reliable, and sustainable leadership, governance, and funding.
 - Recruit leadership to champion California's eGovernment efforts.
- Create a federated governance to provide overall general direction, policies, standards, and guidelines for departments and agencies to implement individually.
 - Establish a business-focused high-level steering committee to guide policy.
 - Establish a supporting technology review board to provide review and support to the steering committee.
 - Establish teams and working groups drawing upon state experience and expertise to study and draft policies, standards, and guidelines.

CHAPTER 6 - FUNDING

The Internet has changed American consumer and business life over the past fifteen years. As mentioned earlier, it has become as much a part of American consumer and business life as the telephone and brick-and-mortar storefronts - the “new normal” in the American way of life.¹²⁷

Communication with government is part of this evolution with close to 30% of respondents to a 2003 Pew Internet & American Life Project survey reporting that they contact the government through government websites.¹²⁸ Government websites provide a basic state function, requiring a steady, reliable source of funding. Funding for California’s existing web portal was cut in 2002 in the wake of the general dismantling of the Executive Branch’s IT leadership and program, and that funding has not been restored. We have maintained the state portal, without developing it further, only by cobbling together financing from existing departmental funds. This financing arrangement has drawn consistent and understandable hostility from many departments and is inherently unstable and unreliable. Constructing

and maintaining California’s Internet presence is now one of the basic functions of state government. Its development needs to be supported by the Legislature, and it needs to be financed in a way that promotes its long-term stability – through a line item appropriation from the state’s general fund supplemented, as appropriate, by appropriations from special funds that benefit from the state portal.

The federal government found that the funding and staffing of their cross-agency portal, FirstGov, was more challenging than the actual operation of the portal¹²⁹. There are three phases of portal development with unique funding needs – infrastructure development, ongoing development, and ongoing operations. Actual cost estimates and available revenue streams will depend on whether the State opts to build and manage the portal using internal resources, to contract with a third party vendor to build the portal, or to enter into a public-private partnership with a third party vendor. The funding needs, potential funding sources, and a funding model should be identified early in the analytical process and should address both up-front cost to build the infrastructure as well as a sustainable source of monies to support ongoing operations and development.

- ***Infrastructure Development:*** Costs to develop a portal foundation that can be scaled to add information and services in a timely, cost-effective manner should be estimated during the design phase. Shared services should be identified and built into the infrastructure where possible to minimize redundant design and operations costs. While estimates to design and build the infrastructure still need to be calculated, the dollar amount will likely be well into the millions of dollars.

Key Points

- Constructing and maintaining California’s Internet presence is now a basic function of state government and should be financed through a stable, line item appropriation from the state’s general fund.
- Funding will be needed for infrastructure development, ongoing operations, and ongoing development of content.
- Funding sources should include a combination of one-time, single-purpose, multi-purpose, and sustainable sources to provide flexibility.

The State of Texas estimated the cost to develop their portal infrastructure at \$26 million. This investment provided the infrastructure, initial applications, a customer call center with 24/7 availability, a common payment system, telecommunications services, translation services, and marketing¹³⁰.

- ***Ongoing Operations:*** Funding will need to be identified for ongoing operations including the hardware, software, maintenance, and overhead to run the portal infrastructure and shared services. Some shared services may be housed and funded through an individual department; others may be hosted at a State data center. Funding for ongoing operations should be steady and reliable. A line item appropriation from the state's general fund with supplements from special funds as appropriate would promote long-term stability of the state portal and recognize the Internet as a basic business function of state government.
- ***Ongoing Development:*** Once the infrastructure is in place, portal development will move into an ongoing growth stage. An enterprise portal is a living thing – continuously expanding and improving. Under the federated governance model selected by California, funding for ongoing development of portal content and services will primarily be the responsibility of departments and agencies. However, funding may need to be provided from a variety of sources for new shared services developed at the enterprise level.

Funding sources should include a combination of one-time, single-purpose, multi-purpose, and sustainable sources. Pursuing a combination of funding sources will provide greater flexibility and avoid over-burdening a single stream.

- ***One-Time Funding Sources:*** One time funding sources provide revenue that may be used once for a specific program or application. They may provide revenue for development of an application or content, but will need to be supplemented to provide for ongoing operations.
- ***Single-Purpose Funding Sources:*** Single-purpose funding sources provide revenue for development and operations of a single program or application that is provided over the course of a program or pre-specified period of time. They should provide revenue for application development and/or operations specific to that application.
- ***Multiple-Purpose Funding Sources:*** Multi-purpose funding sources provide revenue for development and operations of a combination of related programs or applications that is provided over the course of the programs or a pre-specified period of time.
- ***Sustainable Funding Sources:*** Sustainable funding sources provide a general source of ongoing revenue that may be used for multiple programs, applications, or operations.

A number of innovative funding sources for information technology projects have been identified and are being used by other states, other countries, and other levels of government. Most of the innovative revenue sources allow states to defer payments until after implementation and/or to spread payments over a defined period of time, making them more manageable in short-budget fiscal years.

- **Department Budget Allocation:** A department may choose to provide funding for development of a specific application or content in support of their program mandates. A one-time budget allocation would provide funding for a specific application or content development in a single budget year. A single-purpose allocation would provide funding through participating department budgets for development and operations of an application and related content on an annual basis throughout the life of the service. Department budget allocations may provide funding for development of shared services, but are an unlikely source of funding for infrastructure development.
- **General Fund Allocation:** The legislature may allocate monies from the state's general fund to pay for development of the infrastructure, development of content and services, or ongoing portal operations and maintenance. A one-time allocation would provide funding for a specific purpose in a single budget year. A single-purpose allocation would provide funding for development and operations of an application and related content on an annual basis throughout the life of the service. A multiple-purpose allocation could provide funding for infrastructure or shared service development and operations throughout the life of the portal. It should be noted that general fund allocations can provide an ongoing funding source to support and expand the state website. However, although the State has historically relied on general fund allocations to fund major IT projects, it may be preferable to use bond or other borrowed funds to pay for the costs of developing the initial infrastructure of the integrated portal. Other funding sources need to be identified to provide the bulk of the funding.
- **Department Contribution:** Departments may opt to allocate a portion of their annual budgets to support the portal infrastructure and the enterprise-level services they use in a single budget year or over the life of the programs. The state has successfully pursued this funding option in the past; however, pursuing department contributions for portal development may present political issues. The departments we spoke to during the course of this study were almost unanimous in identifying the cost to departments as one of the problems with the current portal. Most departments felt they were not informed about what the portal would cost them prior to receiving a bill. Many departments also felt that the services provided did not meet their expectations and, in some cases, the portal's promises. If department contributions are to be relied upon for significant funding, strong communication and support at the top levels of the State and the departments will be required. It will be vitally important that the services rendered by the portal be commensurate with the requested contributions and that contributions be scaled according to the size and budget of each department and agency.

- **Grants:** Federal and non-government grants may be available to build the portal infrastructure, to develop program-specific and shared services, or to fund portal operations. The most likely service improvements to qualify for grant money are in the homeland security and public safety arenas and improvements to accessibility of services to the disabled or underserved communities. Available grants will need to be researched and applied for. Grants provide one of the most flexible funding sources. Single award grants can provide a source of one-time funding to build the portal infrastructure or to add services after implementation. Program specific grants can provide a revenue source to develop and maintain services and content over the life of a program or a set period of time. Program-specific grants may be written for individual or related programs. Grants may be written to develop web content and services specific to a program, or to develop a program with web content and services included as a deliverable in the grant proposal. The state could pursue a model that encourages programs to include web content and services in all applicable grant proposals. While grants should be pursued, it is unlikely that grant money will provide all of the funding needed. This option will likely need to be supplemented with other funding sources.
- **Bonds:** Bonds present a potential funding stream¹³¹ that could be used to fund the infrastructure development. Revenue bonds, as well as a variation of municipal bonds called Certificates of Participation in which investors provide funds up front for a State IT system and the State issues Certificates of Participation representing a share of the payments the State makes to the lessor to lease-purchase the IT system¹³², may be written specifically to provide portal services or to fund development of a program with a portion set aside for developing applications to disseminate and archive information. As with grants, bonds may be written to provide one-time funding to develop web content or services. The bonds could be specific to the state web service center or could be program-specific with a percentage of monies received allocated to information dissemination and long-term preservation. Bonds will require legislative approval, willingness of citizens, businesses, or third parties to purchase the bonds, oversight of fund disbursement, and sufficient funds to pay bondholders (or Certificate owners) when the bonds are due. As the web services that the portal will provide will directly benefit citizens, businesses, and government entities that interact with California, there may be a market for information technology bonds. Furthermore, if the bonds were created to fund the enterprise architecture rather than focusing on the portal, bonds would allow the State to fund creation of the foundation as well as the interface.

In addition to outside funding sources that may be leveraged, there are self-sustaining revenue streams being used by private industry and other states. Sustainability is a major factor in ongoing funding. It is not uncommon in short funding years for technology budgets to be cut early. One federal agency found that while they needed \$13 million to support their portal in its second year of operation, only \$3 million was approved¹³³. MyCA found their 2002-2003 budget cut from \$5.8 million to \$1.2 million¹³⁴. By establishing a self-sustaining funding source for technology improvements, the State can minimize the negative impact of a volatile general fund.

- ***Shared Services Model:*** The Shared Services model encourages agencies and other stakeholders to coordinate their efforts on collaborative projects allowing the State to spread costs among participating agencies¹³⁵. It also encourages agencies to adapt technologies developed by other agencies for their own use rather than spending money and time to design, develop, and operate their own system. This cooperation and collaboration between agencies results in fewer duplicate and redundant services, increased efficiency, and cost savings. Sharing services requires strong communication and coordination between agencies to identify and leverage collaborative efforts and to manage the savings realized through sharing. Sharing services would allow California to leverage its strategic sourcing effort to reduce portal costs through aggregated purchasing. The benefits of this model include cost savings, more efficient processes, fewer redundant systems or processes, more standard IT systems across agencies, and improved services to citizens. Shared services have been identified in the Enterprise Architecture model for the portal and could provide a funding source for building the portal infrastructure as well as ongoing development and growth.
- ***Premium or Subscription Services:*** Premium or subscription services provide ongoing funding to sustain and expand the portal. Premium services charge a per-transaction fee for the customer convenience of Internet services. Subscription services provide access to online services not available to non-subscribers such as record queries and requests, professional license renewals, customizable legislative bill tracking, etc. for a flat fee (typically \$50 - \$75 per year). The revenues from these services are used to maintain the portal and provide a myriad of free services to citizens and business. It is important to note that California has moved away from convenience fees charged for citizen services in past years because many customers will choose a different channel rather than pay a fee to use the Internet. This is not unique to California. A 2004 survey by IBM Business Consulting Services found that 75% of Ohio businesses and 74% of Nassau residents stated they were not willing to pay convenience fees.¹³⁶ DMV is finding through discussions with affected industry, that business (and possibly citizens) may be willing to pay a premium for services that are more efficient than other channels because it costs them less time and money to manage the transaction from their end. Customer acceptance of premium or subscription services will need to be gauged and the benefits of the online service must be well defined and clearly communicated to customers.
- ***Cost Savings:*** Typically automated online services cost less to provide than traditional, manual channels. The State will likely save money and resources by providing services through the portal rather than in an office, over the telephone, and through the mail. Cost savings include monies to purchase or lease buildings, to maintain the buildings (overhead), to staff the offices, to print and mail paper documents, to manually enter the data entered on paper forms, to send and receive reports to other government entities, etc. The Center for Digital Government estimates savings of \$154 per transaction using eForms rather than paper forms.¹³⁷ However, cost savings through web services are reliant on adoption by citizens and businesses. The higher the adoption rate of eGovernment services,

the higher the return on investment to government and taxpayers.¹³⁸ Most significant savings don't occur until adoption rates reach a level that allows the government provider to reduce staff and resources dedicated to providing the parallel manual transaction. Until adoption rates reach a level that will enable the government to reduce time and resources spent on the manual process, the cost of developing and maintaining the electronic transaction option may mean increased costs to the providing department.¹³⁹ California can achieve the adoption rates necessary for return on investment by involving our users in the selection of services to offer electronically. Indiana achieved an 86% adoption rate of electronic renewal of nursing licenses in a single year.¹⁴⁰

A fee is attached to many State services to cover the cost of the service. In most cases, legislation exists that prohibits the State from charging more than the cost to provide that specific service. If the State maintains the current fees for all channels, there should be significant cost savings associated with the electronic channel. A portion of these savings could revert to a portal fund to be used for ongoing portal operations, maintenance and growth with the department that provides the service retaining the rest of the savings. Legislation would be required to exercise this option.

- **Revenue Funding Pool:** With support from the Legislature, California could establish a revenue funding pool¹⁴¹ to sustain the portal using monies from general fund allocations, department contributions, portal revenues from subscription or premium services, and/or cost savings realized through automating processes. The revenue funding pool could then be used to pay for development of new services and applications either through single agency or multi-agency projects as well as providing a sustainable, dedicated funding source for ongoing operations and maintenance costs. Additional funding sources may be identified to supplement and feed the portal resource through budgeting/appropriation strategies such as retaining technology funds that are unspent at the end of the budget year rather than reverting to the general fund, using uncommitted year-end funds for technology projects, reallocating savings realized from previous technology projects to fund new technology projects, and/or increasing in-house expertise to reduce the money spent on outside consultants and optimize return on IT funding¹⁴². Governance is critical when a dedicated funding pool is established to ensure proper oversight of public funds as well as to ensure that projects are chosen based on projected benefits to California citizens and businesses. A clearly defined prioritization process must be developed that takes into account not only monetary value but intangible benefits such as improved customer service and improved access to government. The federal government's Value Measuring Methodology (VMM)¹⁴³ may be used as a template for this process. The VMM provides the federal government with tools and techniques to quantify the value, cost, and risk of proposed eGovernment projects. Return on investment is part of the calculation, but the evaluation also looks at intangible benefits to the customer in terms of service and access. California should consider either utilizing the federal model or adapting it to meet the specific needs of our state.

- ***Performance Based Contracting:*** In a traditional fixed-price contract there is little incentive for a vendor to exceed performance expectations. One way to address this is through a performance-based contract. This allows the State to optimize vendor performance and expertise by defining its objectives for an IT system or project and allowing the bidding vendors to propose solutions and performance measures to ensure that the State's expectations are met¹⁴⁴. The contract defines these performance measures with rewards for exceeding expectations and penalties for failing to meet the agreed upon level of service. By incorporating knowledge transfer into the performance measures, the State could mitigate the risk of public employees being unable to support the system after transfer as happened with MyCA. Performance based contracting requires clearly defined performance measures, incentives, and penalties agreed upon by the State and the vendor. The State is responsible for monitoring vendor performance against the defined metrics. Performance based contracting is part of the public-private partnership model defined below, but may be used for any contracted service.

Where We Are Now – Centralized Portal with Decentralized Development

The current portal infrastructure was developed and built by a vendor in 2000 through a \$10 million budget allocation¹⁴⁵. The vendor was responsible for managing the portal; funding for infrastructure development and vendor support of ongoing operations and maintenance were paid through a general fund appropriation to the Department of General Services. Departments paid a fee to access the infrastructure and participate in the portal¹⁴⁶. Ownership was transferred to the state data center in 2003 and funding was provided through cost recovery.

Departments are responsible for funding development of new content and services related to their programs through their department budgets, general fund allocations, or special budget allocations. The Department of Technology Services is responsible for maintaining central portal functions such as search functionality and for ongoing operations. Departments are charged a fee to support the state portal, whether they choose to participate or not. There is a general lack of support for the portal and animosity toward the fees charged. Most departments contacted felt they were not receiving value for the monies spent on the state portal.

Where We Want to Be – Federated Web Service Center

As noted in the chapter concerning governance, the California State Portal Steering Committee and Review Board agreed to implement a federated governance model for the state's website. Under the federated governance model selected by the Portal Steering Committee, individual departments will continue to follow their funding models for the program-specific content and services that will constitute most of the web content. However, a funding model will need to be identified for the enterprise portal including development of the portal infrastructure, state-owned pages, shared and universal services, and ongoing operations at the state level.

The State should develop standards for estimating funding requirements surrounding the portal. The standards should be universal and applied to infrastructure development as well as ongoing application and content development. Industry best practices recommend cost estimates include return on investment (ROI) information and the estimated break-even point where revenues compensate for the cost to build the portal as well as the non-monetary benefits found in improved access to government, improved service to our customers, and streamlined government processes. Estimates should be developed following standard State models for technology operations. All standards will meet California requirements or will be preceded by appropriate legislation.

How Do We Get There?

Portal Funding Model

The state must identify its approach to building and managing the portal before funding needs and sources can be identified. There are three possible approaches – the state can use internal resources to build and manage the portal, the state can contract portal development through a vendor but manage the portal using internal resources, or the state can contract development and maintenance to a third-party vendor through a traditional contract or a public-private partnership. Each approach requires a different funding model.

State Built and Managed: Identify state resources with the skill sets necessary to build and operate the portal. If State resources are not available, provide the necessary training to provide the necessary skills. It is important to note that the State may not have resources available with the necessary skill sets and experience. Once resources are identified, secure their services for the portal project.

Key Points

- There are three possible approaches – the state can use internal resources to build and manage the portal, the state can contract portal development through a vendor but manage the portal using internal resources, or the state can contract development and maintenance to a third-party vendor through a traditional contract or a public-private partnership.

There are benefits associated with using State resources to build and operate the portal. From a funding standpoint, using internal resources allows the State to better control costs and to invest all revenues and savings into the State. However, this approach does require that the State secure the resources, both monetary and human, to build the infrastructure before the project begins. Estimates will need to be developed for building the portal infrastructure, developing the services that will be included in the initial rollout, training resources, and portal operations. Skill sets will need to be defined and remedial training options identified.

Building the portal using State resources requires that the State secure the resources, both monetary and human, to build the infrastructure before the project begins. Combining one-time, single-purpose, and multiple purpose funding sources may provide the State with enough funds to build the portal infrastructure. Ongoing and sustainable funding

sources need to be identified to pay for ongoing operations, maintenance, and growth of the portal once the infrastructure is in place. It should be noted that due to the size and complexity of this project, strong oversight and communications at the State level will be required to ensure that our investors receive the services promised.

Vendor Built, State Managed: If State resources with the necessary skill sets to build the portal infrastructure are not available, the State will need to contract with a third party vendor. The State may opt to contract the design and development of the infrastructure then assign state resources to manage the portal after implementation. This not only reduces the strain on government resources, but also allows the State to benefit from the contractor's experience and expertise.

Hiring a vendor to build the portal infrastructure, and then transferring ownership to the State for maintenance and ongoing development tends to be more costly and higher risk than having a single entity build and manage the portal. Because the system is developed by a vendor then transferred to the State after completion, ramp-up costs to transfer from the old system to the new are incurred twice – once by the vendor and once by the State. These costs can include but are not limited to knowledge transfer, training, system management infrastructure development, and the actual transfer from the old system to the new. Knowledge transfer is a long, difficult process, as the State employees must familiarize themselves not only with the actual production systems, but also with the coding standards and conventions used by the vendor to develop the system. Because the State technology, standards, and conventions tend to change more slowly than private industry it is important that any systems built by vendors be designed to align with the State's skills sets and standards. A third-party vendor built the current MyCA portal; California was not prepared to maintain the portal when the vendor contract ended. If California pursues a vendor-developed model, a plan must be developed for training and knowledge transfer to ensure that California is able to assume management after implementation. The plan must identify and secure resources with the necessary skill sets to manage and expand the portal during operations.

Vendor Built and Managed: Another option using expert resources is to hire a vendor to build and manage the portal through a traditional contract or a public-private partnership. In this model, the State contracts with a vendor to pay for part or all of an IT project upfront. The vendor recovers its costs from revenue generated by the project through online applications and services; the State may also share in the revenue¹⁴⁷. This model requires contracting with a vendor to provide the technology solution, creation of a revenue stream to allow the vendor to recoup its initial investment, and strong communications between the State and the vendor. Legislative and regulatory changes would be needed to allow California to pay the vendor by either adding or increasing fees for services or by identifying a percentage of the cost savings associated with the automated process for the vendor. Additionally, the State would need to identify value-added services that could support premium or subscription fees as well as estimate cost savings that could be realized by automating and streamlining processes. Currently, 22 states have built and maintain their portals through public-private partnerships.

This option will not work for California in the immediate future. Current legislation hinders agencies from developing services that will be shared by other agencies. Current laws and regulations also prohibit agencies from charging more for a service than the cost to provide that service. A vendor would not be able to recoup its investment through either increased service fees or by maintaining current service fees and pulling revenue through the cost savings associated with web services. California's leaders and citizens view additional charges on government services intended to pay for the channel as taxation. Another challenge to public-private partnership is the lack of standard performance measures both between and within individual agencies and departments. This would make identifying and realizing profits very difficult. Changes in law and regulations would need to be enacted by the state legislature to allow the private partner to build shared services and to recover their investment in building the infrastructure and applications. A culture change would need to occur in the state's government, citizenry, and businesses to enable the use of a public-private partnership to build the portal in California.

The benefits of this model includes limited initial outlay of funds by the State, improved vendor performance through incentives, and cost efficiencies by utilizing vendor expertise rather than training and maintaining in-house expertise; California benefits from the vendor's expertise and experience not only in developing the portal but also in managing it. The model is sustainable because it creates a new revenue stream rather than spending taxpayer dollars to build IT infrastructure and services. Outsourcing the portal infrastructure development and/or ongoing operations and growth to a public-private partner or traditional vendor relieves the State of the financial burden of funding portal development and providing expert resources to design, build and maintain the portal. However, it does leave California reliant on a third-party for success.

Infrastructure Funding

The Department of Technology Services (DTS) plans to rebuild the portal infrastructure during the coming year. The current system will be dismantled as per the decision of the California Portal Steering Committee in October 2005. DTS is gathering vendor recommendations for the new portal infrastructure and will be developing cost estimates for the project. At this time, they estimate completion of the core infrastructure in October 2006. One time funding will need to be secured to pay for the infrastructure project. The Department of Technology Services is a service agency with no direct budget allocation from the state. The department typically funds development and operations through cost recovery from affected agencies. The lasting ill-will surrounding department contributions to maintain the current portal suggests that alternative funding is preferable. California should pursue all applicable sources of funding to support the development of the portal infrastructure to provide greater flexibility and avoid over-burdening a single stream.

Key Points

- One time funding will need to be secured to pay for the infrastructure project.
- The Department of Technology Services (DTS) will be developing cost estimates for the project.

Ongoing Operations Funding

Funding needs to be identified at the state level for ongoing operations and maintenance. If the state opts to appoint a sponsoring agency for the state web service center as recommended in the chapter on Governance, that agency would be responsible for funding ongoing development, maintenance, and operations. Money would need to be allocated from the state budget to the sponsoring agency to cover the additional expenses. If a sponsoring agency is not selected, a reliable, sustainable funding source must be identified and secured.

At this time, the Department of Technology Services estimates funding needs to cover ongoing operations and maintenance at approximately \$2 - \$2.5 million per year. By funding ongoing operations through annual budget allocations to a sponsoring agency, the state provides a steady, reliable funding source for its eGovernment infrastructure while recognizing the web as a standard business channel for state government.

Key Points

- The state should appoint a sponsoring agency for the state web service center that would be responsible for funding ongoing development, maintenance, and operations.
- Money will need to be allocated from the state budget to provide a reliable, sustainable funding source for the additional expenses associated with governing the portal.

Ongoing Development Funding

Ongoing development of new enterprise level services will be the responsibility of the Department of Technology Services and the sponsoring agency, if the Portal Steering Committee opts to appoint a sponsoring agency as recommended in the chapter on Governance. One time funding will need to be identified for new enterprise-level services as they are identified.

Once estimates are developed for ongoing development of enterprise level shared services, funding sources will need to be identified and secured. The approach should combine a flexible, entrepreneurial approach for funding application and content development with a traditional, sustainable approach to provide core funding for ongoing operations. The funding sources selected will depend on the estimated costs and the identification of revenue streams. The options available include traditional funding sources such as general fund or grant allocations as well as innovative sources including revenue funding pools, revenue generation through premium or subscription services, utilizing

Key Points

- The state should appoint a sponsoring agency for the state web service center that would be responsible for funding ongoing development of new enterprise level services.
- If a sponsoring agency is not selected, one-time funding sources should be identified and secured by the Department of Technology Services and the Portal Steering Committee for ongoing development projects.
- Funding sources should include a combination of one-time, single-purpose, multi-purpose, and sustainable sources.

cost savings to fund future development, etc. The key issues surround funding sources center around how (or even if) the portal should generate revenue and where the money should be invested. Most states (and some private businesses) offering Internet services charge some form of premium, transaction, or subscription fee. A number of innovative funding sources for information technology projects have been identified and are being used by other states, other countries, and other levels of government. Most of the innovative revenue sources allow states to defer payments until after implementation and/or to spread payments over a defined period of time, making them more manageable in short-budget fiscal years. Funding sources should include a combination of one-time, single-purpose, multi-purpose, and sustainable sources. Pursuing a combination of funding sources will provide greater flexibility and avoid over-burdening a single stream.

Development of Program Specific Content and Shared Services

Within the federated governance model, individual agencies and departments are responsible for funding program-specific content and services. Services that apply to multiple agencies, but not all agencies can be developed and funded as shared services by the affected agencies. The state will need to develop policies, standards, and guidelines that enable agencies to collaborate on projects, with funding from multiple sources. The Department of Finance and the Department of General Services, Procurement Division should be involved in developing standards and policies related to collaborative funding. Both department and collaborative development projects will need to meet the state and department requirements for funding.

Key Points

- Departments will be responsible for identifying and securing funding for program-specific content and services.
- Services that apply to multiple agencies, but not all agencies can be developed and funded as shared services by the affected agencies.
- The state should develop policies, standards, and guidelines that enable agencies to collaborate on projects, with funding from multiple sources.

Building the Funding Framework

- Recognize California's portal, like other successful state government portals, provides a basic state function, with a steady, reliable source of funding:
 - Build support from the Governor and the Legislature.
 - Secure financing that promotes long-term stability through a line item appropriation from the state's general fund.
 - Investigate supplemental appropriations from special funds that benefit from the state portal as appropriate.
- Recognize that overall funding of the state's Internet presence will be needed to:
 - Develop the initial infrastructure,
 - Support ongoing operations, and
 - Create and build additional content, services and applications.
- Pursue a combination of funding sources for the state's Internet presence to provide greater flexibility and avoid over-burdening any single stream:
 - One-time,
 - Single-purpose,
 - Multi-purpose, and
 - Sustainable sources.
- Promote and support development of program specific content and shared services by departments and collaborative efforts.
 - Recognize departmental responsibility to identify and secure funding for program-specific services.
 - Develop policies, standards, and guidelines that enable agencies to collaborate on projects, with funding from multiple sources.
 - Encourage services that apply to multiple agencies, but not all agencies, be developed and funded as shared services by the affected agencies.

APPENDIX A – DEPARTMENT INTERVIEWS

The California Research Bureau and the California State Library met with several agencies and departments to gather information and ideas about the current state portal and the planned integrated state portal. We would like to thank the following departments and agencies for their invaluable input and participation in these discussions.

Board of Equalization

California Community Colleges

California Highway Patrol

California State Bar

California State University

Department of Alcohol and Drug Programs

Department of Child Support Services

Department of Consumer Affairs

Department of Corporations

Department of Finance

Department of Food and Agriculture

Department of Health Services

Department of Industrial Relations

Department of Insurance

Department of Motor Vehicles

Department of Technology Services

Department of Transportation

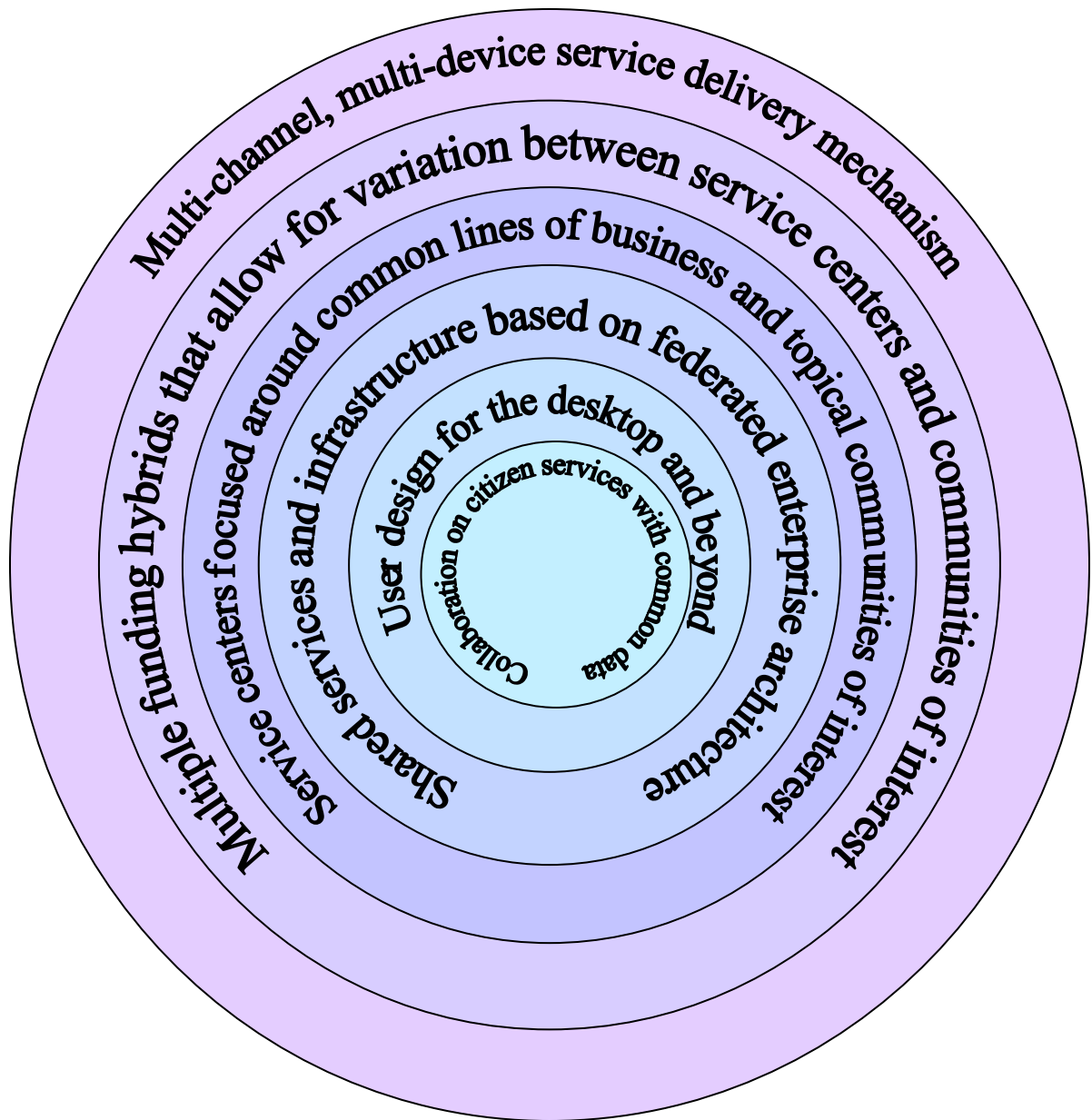
Employment Development Department

Franchise Tax Board

Office of Emergency Services

State Controllers Office

APPENDIX B – PORTAL FRAMEWORK APPROACH



ENDNOTES

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